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NOTES
ON THE NATURAL HISTORY OF
LABRADOR.

BY

W. A. STEARNS.

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THE NATURAL HISTORY OF LABRADOR.

The following article, entitled "Notes on the Natural History of Labrador," appeared in the 6th volume of the Proceedings of the United States National Museum, published at Washington, D. C., in 1883, and occupying the pages 111 to 137. I am aware of so few additions to the list, excepting among the Birds, that I reprint with but slight revision. The Birds are treated of separately and at length, in my pamphlet "Bird Life in Labrador." The article entitled "List of the Crustacea Dredged on the Coast of Labrador by the Expedition under the Direction of W. A. Stearns, in 1882." occupied pages 218 to 222; the "Review of the Marine Crustacea of Labrador," pages 223 to 232; the "Catalogue of Mollusca and Echinodermata Dredged on the Coast of Labrador by the Expedition under the Direction of Mr. W. A. Stearns, in 1882," pages 236 to 247 of the same volume.

The one hundreds copies furnished me by the Museum were used up in almost immediate distribution. Special calls of late have decided me to reprint, these four articles at least, under one title.

Notes on the Natural History of Labrador.

There has been much contention between the two great powers, France and England, as to who first discovered this great peninsula of Labrador. It was certainly visited by Sebastian Cabot in 1499; and more or less explored by the Portuguese Cortereal, who, it is supposed, named it.

The popular tradition of the coast seems to be "that one Labrador, a Basque whaler, from the kingdom of Nevarre, in Spain, did penetrate through the Straits of Belle Isle as far as Labrador Bay, some time about the middle of the fifteenth century, and eventually the whole coast took its name from that coast and harbor."

There is very little doubt that the coast here was visited by Norsemen as early as the tenth century.

There exists strong proof, also, that the discovery of this coast was made known by Basque fishermen.

As early as 1509, a chart of the coast had been published and was in the possession of the French.

In 1532, Jacques Cartier visited the coast *with Basque fishermen as pilots.*

The first established colony in Labrador appears to be that at "Brest," now Bradore, which was founded 1508, and soon contained 200 houses and 1,000 inhabitants, which number was trebled in the summer time or fishing season; but this colony did not survive over a century or a century and a half.

At present, from Red Bay to Natashquan, a distance of over 400 miles, there is scarcely a township containing more than thirty resident families.

The principal seal-fishing establishments are at La Tabatier, Dog Islands, Bradore, Long Point, and L'anse Loup. At these the average catch of eight stations, where hand nets are used, that are about 40 to 75 fathoms long and 30 feet deep, is 800 large and 50 to 100 small harp and hood seal. The catch of Labrador and other steamers and vessels is 13,000 to 16,000 young "white coats" on the ice in the spring. These figures are increased or diminished according to the season.

I have visited nearly every station of importance from Mingan to Triangle Harbor, some miles north of Belle Isle, and everywhere found the people hard at work at their fishery in the summer time.

Blanc Sablon forms the dividing line between the Province

of Quebec on the left hand and southwest and Labrador on the northeast.

All along the coast there are little harbors and bays some of small and some large size. All these places that can harbor a vessel contain from one to three and eight — the usual number — houses. They are various distances apart, say from half a mile to 8 miles, though generally 3 to 5 miles. It is thus, save in one or two rough places, easy to go along the coast in small boats, stopping here or there in rough weather or at night.

In 1875 I made a summer excursion to Labrador, and remained there about two months chiefly within a radius of 60 miles southwest, and 10 northeast of Bonne Esperance.

In 1880 I visited the coast in September, and remained there the fall, winter, and spring of 1880 - '81, returning home after an absence of just one year on the coast. During that time I visited nearly all the important points from Mingan to Red Bay.

In 1882 I spent the summer on the coast again, starting from Boston, as I had done in 1875 (my 1880-'81 trip had been from Quebec), with a party of about twelve young college men, when much good work was done in collecting, but owing to insufficient apparatus only enough to show what might be done with a properly fitted-out craft going for this express purpose and no other

The following list of mammals, birds, and plants will show what has been accomplished in that line, and it is hoped that they will add, if ever so little, to our knowledge of the Labrador fauna and flora. Much more remains to be done, however, in each of these departments.

My examinations have been chiefly along the sea-coast. The interior has been rarely, if ever to any great extent, invaded by man.

W. A. STEARNS.

MAMMALS.

During the four trips that I have made to Labrador I have found the following mammals more or less abundant (according to their designation) all along the coast :

LYNX CANADENSIS (Desm.), Raf. *Canada Lynx.*

Common, especially in winter, when it is hunted for its fur all along the coast.

CANIS LUPUS, Linne, var. GRISEO-ALBUS. *Gray Wolf.*

Reported as seen occasionly, but very rare.

VULPES FULVUS (Desm.), var. FULVUS. *Red Fox.*

Abundant, especially in furring season.

VULPES FULVUS (Desm.), var. ARGENTATUS. *Silver Fox; Black Fox.*

The former variation is not uncommon; the latter is rare along the coast. I saw three beautiful skins of the black variation, with scarcely a light hair in them, caught on the coast.

VULPES LAGOPUS, (Linne) Gray. *Arctic Fox.*

Rather common, but getting more and more scarce in Northern Labrador.

MUSTELA PENNANTI, Erxleben. *Fisher.*

Found occasionally in the southern portion of Labrador.

MUSTELA AMERICANA, Turton. *American Sable; Marten.*

Abundant inland, in the furring season, throughout the peninsula.

PUTORIUS ERMINEA, (Linne) Griff. *Ermine; Stoat.*

Common all along the coast and probably equally so inland.

PUTORIUS VULGARIS, (Erxl.) Griff. *Common Small Weasel.*

As far as I can discover equally abundant with P. *erminea.*

PUTORIUS VISON, (Schreb.) Gapp. *Mink.*

Abundant everywhere, along the coast and about inland ponds.

GULO LUSCUS, (Linne) Sabine. *Wolverine.*

Rather common, but not nearly so often taken by the trappers as one would imagine. Seems to be pretty generally distributed along the coast.

MEPHITIS MEPHITICA, (Shaw) Baird. *Skunk.*

Seen occasionally in the lower portions of Labrador, but is rare.

LUTRA CANADENSIS, Sabine. *Otter.*

Common in the furring season all along the coast.

URSUS AMERICANUS, Pallas. *Black Bear.*

Common inland and along the high bluffs by the sea shore, all along the coast.

THALARCTOS MARITIMUS, (Linne) Gray. *White or Polar Bear.*

Rare, occasionally seen on blocks of floating ice off shore in the extreme northern portions. Twice recorded as far down through the Straits of Belle Isle as Blanc Sablon.

PROCYON LOTOR, (Linne) Storr. *Raccoon.*

"Occurs at Square Island." — *Packard.*

PHOCA VITULINA, Linne. *Harbor Seal.*

Common. Rears its young on sand-bars about 15 to 20 miles up the rivers in the interior in the spring. Abundant outside in the fall.

PHOCA FŒTIDA, Fabricius. *Ringed Seal. Jar.*

Not uncommon in harbors in spring and fall. Distinguished from last species only on close examination.

PHOCA GRŒNLANDICA, Fabricius. *Harp? Seal.*

Common *in migrations* all along the shores south of Belle Isle.

ERIGNATHUS BARBATUS, (Fabricius) Gill. *Square-Flipper Seal.*

Rather common on cakes of floating ice in the spring, all along the coast.

CYSTOPHORA CRISTATA, (Erxl.) Nilsson. *Hooded Seal.*

With P. *grœnlandica*, but less common.

ODOBÆNUS OBESUS, (Illiger) Allen. *Walrus.*

Rare along the coast of Northern Labrador. Two were shot in 1880 and 1881, at Fox Harbor, St. Lewis Sound, off the shore a little way. A gentleman of our party obtained the tusks of one of them, which were about 7 inches long and nearly an inch in diameter.

Regarding the deer of Labrador some confusion exists. Two species, about equally common, are found throughout the peninsula in small, or less frequently in large (300 or 400), herds. They are probably the following:

TARANDUS RANGIFER, Brookes, var. CARIBOU. *Woodland Caribou,* and

TARANDUS RANGIFER, Brookes, var. GRŒNLANDICUS. *Barren Ground Caribou.*

ALCES MALCHIS, (Linne) Gray, the *Moose,* and CERVUS CANADENSIS, Erxleben, *American Elk.*

Both have been reported as found in the southwestern portion of Labrador, about north from Anticosti, but they are doubtless very rare and occasional only.

OVIBOS MOSCHATUS, Blainville. *Musk Ox.*

On the authority of Prof. A. S. Packard a single relic of this animal may be accredited to this region. Probably it was its most southern limit in former times.

DELPHINAPTERUS CATODON, (Linne) Gill. *White Whale.*

Common in the St. Lawrence River, at least as far east as Anticosti Island.

MONODON MONOCEROS, Linne. *Narwhal.*

Given on the authority of Professor Packard, but it is probably very rare.

ORCA GLADIATOR, (Bonnaterre) Gray. *Killer.*

Apparently occasional all along the coast.

GLOBICEPHALUS INTERMEDIUS, (Harlan) Gray. *Black-fish.*

Common in the Gulf, at least to the mouth of the Straits of Belle Isle.

GRAMPUS GRISEUS, (Cuvier) Gray. *Grampus.*

Not uncommon all along the shores to Belle Isle, and perhaps farther.

PHYSETER MACROCEPHALUS, Linne. *Sperm Whale.*

Occasionally taken along the coast, as I am informed by the traders and people.

SIBBALDIUS BOREALIS, (Fischer) Geoffroy.
Sulphur-bottom Whale.

Not regarded as rare. Frequently taken by the people along the shore. One towed ashore at Old Fort Island in 1878 or 1879.

One of the whalebone whales is occasionally taken along the seacoast, but which species it is I cannot tell. I am sure that several species both of whales and porpoises will be eventually added to this list.

SCIUROPTERUS VOLUCELLA, (Pallas) Geoffroy, var. HUDSONIUS.
Flying Squirrel.

Occasional along the coast. Specimens found at Saint Augustine.

SCIURUS HUDSONIUS, Pallas. *Red Squirrel.*

Common in the woods along the shore, and probably inland also, all along the coast.

Gray Squirrels are said to occur here, but I did not see any.

ARCTOMYS MONAX, (Linne) Schreber. *Woodchuck. Whistler.*

Common at Mingan, growing scarce towards Bonne Esperance.

CASTOR FIBER, Linne. *Beaver.*

Common in inland ponds all along the coast in furring season, but growing rapidly scarce.

ZAPUS HUDSONIUS, (Zimmerman) Coues. *Deer Mouse.*
Jumping Mouse.

Not rare on the dry tops of many of the islands along the coast.

HESPEROMYS LEUCOPUS, (Raf.) Le Conte. *White-footed Mouse.*

Occurs probably about equally abundant with *Z. hudsonius.*

A species of ARVICOLA or *Meadow Mouse* is very abundant in summer.

FIBER ZIBETHICUS, (Linne) Cuvier. *Muskrat.*

Very common in the ponds inland all along the coast, at least to Belle Isle.

ERETHIZON DORSATUM, (Linne) F. Cuvier.
White-haired Canadian Porcupine.

Very common along the coast certain years; periodical. Killed by the Indians for food.

LEPUS AMERICANUS, Erxleben, var. AMERICANUS.
Northern Varying Hare.

Common, some years even abundant.

[LEPUS AMERICANUS, Erxleben, var. VIRGINIANUS.
Southern Varying Hare.

Occurs in Newfoundland, but has not yet been recorded from Labrador.]

VESPERTILIO SUBULATUS, Say. *Little Brown Bat.*

A specimen flew on board our vessel one night, when about opposite Natashquan, and was secured. Other species doubtless occur.

BIRDS.

The following list of birds comprises those collected during a stay of twelve months on the coast in 1880–'81, and also some additions made the summer of 1882. A few are added on the authority of Dr. Coues in 1860. I think that the number of land birds will probably be largely increased by further investigation.

1. MERULA MIGRATORIA. *Robin.*

Saw a small flock at Old Fort Bay, October 10, 1881; shot

a specimen April 26, 1882; found them breeding in the interior in June, same year.

2. HYLOCICHLA MUSTELINA.* *Wood Thrush.*

Certainly heard this bird repeatedly — other persons present verified the same — 10 miles up Esquimaux River, one day late in July.

3. SAXICOLA ŒNANTHE. *Stonchat.*

Dr. Coues procured a single specimen at Henley Harbor, August 25, 1860.

4. REGULUS CALENDULA. *Ruby-crowned Kinglet.*

Shot a single specimen at Old Fort Island, October 11, 1881. Dr. Coues shot one August 6, 1860, at Rigoulette.

5. PARUS HUDSONICUS. *Hudsonian Chickadee.*

Abundant everywhere along the coast all the year.

6. EREMOPHILA ALPESTRIS. *Shore Lark.*

Common everywhere, except in the winter.

7 ANTHUS LUDOVICIANUS. *Titlark.*

Common everywhere, except in the winter.

8. DENDRŒCA CORONATA. *Yellow-rumped Warbler.*

Common in interior. Breeds.

9. DENDRŒCA STRIATA. *Black-poll Warbler.*

Common in interior. Breeds.

10. GEOTHLYPIS TRICHAS. *Maryland Yellow-throat.*

Common at Natashquan.

11. SIURUS AURICAPILLUS. *Golden-crowned Thrush.*

Not uncommon in the interior. Breeds.

12. SIURUS NÆVIUS. *Water Thrush.*

Not uncommon in the interior. Breeds.

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*More like *H. aliciæ* (Gray-cheeked Thrush), since the Wood Thrush is not known to occur even so far north as the southern shores of the Gulf of Saint Lawrence. — R. R.

13. MYIODIOCTES PUSILLUS. *Green Black-capped Flycatcher.*

A specimen was shot by D. H. Talbot, Sioux City, Iowa; 10 miles up Esquimaux River, another specimen was seen and others heard. The bird cannot be rare.

14. PINICOLA ENUCLEATOR. *Pine Grosbeak.*

Common in fall and winter.

15. ÆGIOTHUS LINARIA. *Red-poll Linnet.*

Rather common in the interior. Breeds.

16. PLECTROPHANES NIVALIS. *Snow Bunting.*

Common in large flocks in winter.

17. CENTROPHANES LAPPONICUS. *Lapland Longspur.*

Rather common.

18. PASSERCULUS SANDWICHENSIS SAVANNA. *Savanna Sparrow.*

Abundant everywhere. Breeds. None seen in winter.

19. JUNCO HYEMALIS. *Snow Bird.*

Not so rare in spring and fall. Obtained several near Old Fort.

20. SPIZELLA MONTICOLA. *Tree Sparrow.*

Not rare in spring and fall. With the last.

21. ZONOTRICHIA ALBICOLLIS. *White-throated Sparrow.*

Common everywhere. Breeds.

22. ZONOTRICHIA LEUCOPHRYS. *White-crowned Sparrow*

Common everywhere. Breeds.

23. PASSERELLA ILIACA. *Fox-colored Sparrow.*

Common at least as far as Red Bay in spring and fall, if not in summer.

24. SCOLECOPHAGUS FERRUGINEUS. *Rusty Blackbird*

Common and breeds at least as far as L'Anse Amour.

25. CORVUS CORAX. *Raven.*

Abundant all the year round.

26. CORVUS AMERICANUS. *Common Crow.*
A few occasionally seen as far north as Esquimaux River.

27. PERISOREUS CANADENSIS. *Canada Jay.*
Abundant inland all the year.

28. CHRODEILES POPETUE. *Night Hawk.*
Common at Natashquan.

29. CERYLE ALCYON. *Kingfisher.*
Common at least as far as Esquimaux River. Breeds.

30. PICUS VILLOSUS. *Hairy Woodpecker.*
Common inland in winter at least about Esquimaux River.

31. PICUS PUBESCENS. *Downy Woodpecker.*
I found this common with the last.

32. PICOIDES ARCTICUS. *Black-backed three-toed Woodpecker.*
On authority quoted by Coues.

33. COLAPTES AURATUS *Golden-Winged Woodpecker.*
Not rare, at least as far as L'Anse Claire.

34. BUBO VIRGINIANUS. *Great Horned Owl.*
Not rare in neighborhood of Esquimaux River.

35. ASIO ACCIPITRINUS *Short-eared Owl.*
A specimen was brought to me by one of the young fellows at Old Fort.

36. NYCTEA SCANDIACA. *Snowy Owl.*
Not rare in winter. All along the coast to Red Bay, at least if not further.

37. CIRCUS HUDSONIUS. *Marsh Hawk.*
One specimen found at Dead Island harbor.

38. ACCIPITER COOPERI. *Cooper's Hawk.*
Seen several times.

39. ASTUR ATRICAPILLUS. *Goshawk.*
Dr. Coues obtained one specimen.

40. HIEROFALCO GYRFALCO OBSOLETUS?
Labrador Gryfalcon?

Saw the bird, and have no doubt but that he had a nest on an inaccessible crag near the house, but was unable to obtain it.

41 ÆSALON COLUMBARIUS. *Pigeon Hawk.*

Seen several times on our way down the coast.

42 CANACE CANADENSIS. *Spruce Partridge.*

Common all the year around.

43 LAGOPUS ALBUS. *Willow Ptarmigan.*

Not rare. In winter generally common.

44 LAGOPUS RUPESTRIS. *Rock Ptarmigan.*

Not rare. Generally common in winter.

45 SQUATAROLA HELVETICA. *Black-bellied Plover.*

Common in spring and fall.

46. CHARADRIUS DOMINICUS. *Golden Plover.*

A specimen of this bird was obtained at Fox Island, Saint Lewis Sound.

47. ÆGIALITES SEMIPALMATUS. *Semipalmated Plover.*

Common. Breeds everywhere.

48. STREPSILAS INTERPRES. *Turnstone.*

Common at Dead Island and along the coast in small flocks.

49. PHALAROPUS FULICARIUS. *Red Phalarope.*

Given by Dr. Coues, who procured them from off Belle Isle.

50. GALLINAGO WILSONI. *American Snipe.*

Given by Dr. Coues. A single specimen secured.

51. MACRORHAMPHUS GRISEUS. *Red-breasted Snipe.*

Given by Dr. Coues. A single specimen secured.

52. EREUNETES PUSILLUS. *Semipalmated Sandpiper.*

Common in spring and fall.

53. ACTODROMAS MINUTILLA. *Least Sandpiper.*

Common in spring and fall. Breeds in summer.

54. ACTODROMAS MACULATA. *Pectoral Sandpiper.*
Occasional in fall.

55. ACTODROMAS BONAPARTEI. *Bonaparte's Sandpiper.*
Abundant in large flocks in spring and fall. A few breed.

56. TRINGA CANUTUS. *Knot.*
Not very common in fall.

57. CALIDRIS ARENARIA. *Sanderling.*
Common in flocks of 20 and 30 at Old Fort Island.

58. LIMOSA HÆMASTICA. *Hudsonian Godwit.*
I obtained a single specimen at Old Fort Island. It is said to be very rare.

59. TOTANUS MELANOLEUCUS. *Greater Yellowlegs.*
Not rare in spring and fall. I think breeds. Have found it late into breeding season.

60. RHYACOPHILUS SOLITARIUS. *Solitary Sandpiper.*
Not rare in spring and fall. Breeds.

61. TRINGOIDES MACULARIUS. *Spotted Sandpiper.*
Not rare. Breeds.

62. NUMENIUS HUDSONICUS. *Hudsonian* or *Jack Curlew.*
Not rare in fall.

63. NUMENIUS BOREALIS. *Esquimaux Curlew.*
Formerly abundant; now common in the interior in fall.

64. BOTAURUS LENTIGINOSUS. *American Bittern.*
Authority of Dr. Coues. One specimen.

65. BERNICLA CANADENSIS. *Canada Goose.*
Not rare in spring and fall.

66. BERNICLA BRENTA. *Brant Goose.*
Rather common at least as far north as Cape Whittle.

67. ANAS OBSCURA. *Black Duck.*
Common; said to breed.

68. DAFILA ACUTA. *Pintail Duck.*
Rare. I obtained one specimen of a pair seen at Old Fort

Island. One taken a short time before near the same place.

69. MARECA AMERICANA. *Widgeon.*

Occurs as far as Natashquan; said to occur inland at Esquimaux River.

70. NETTION CRECCA. *English Teal.*

Authority of Dr. Coues, who obtained one specimen.

71. NETTION CAROLINENSIS. *Green-winged Teal.*

Dr. Coues obtained one single specimen at Rigoulette.

72. AIX SPONSA. *Wood Duck.*

Not rare in interior. Breeds in hollow trees.

73. ÆTHYIA AMERICAN. *Redhead.*

I saw a single specimen in the water at Baie des Roches, September 23. Am told that it is common.

74. CLANGULA ISLANDICA. *Barrow's Golden Eye.*

Common in rivers as far as Natashquan. Said to occur in Esquimaux River in mild winters.

75. CLANGULA ALBEOLA. *Buffle-head Duck.*

Common in fall.

76. HARELDA GLACIALIS. *Long-tailed Duck.*

Common in mouths of rivers in spring and fall.

77. HISTRIONICUS MINUTUS. *Harlequin Duck.*

Rather rare. Mouths of rivers, spring and fall. Probably breeds.

78. SOMATERIA MOLLISSIMA DRESSERI.
American Eider Duck.

Abundant everywhere. Breeds.

79. SOMATERIA SPECTABILIS. *King Eider.*

Abundant in spring in large flocks. I shot a great many of them. It is said to breed in this region occasionally. In the Canadian Sportsman and Naturalist, vol. 1, No. 7, July 15, 1881, p. 51, in an article headed "Bird-nesting in Labrador," Mr. Napoleon A. Comeau, the writer, whom I know personally and who spoke with me personally to the same purport,

says that of a small island opposite Mingan: "Indeed, one small island, visited by us, was almost covered with the nests of this species (*S. mollissima*), *and here we first found the nest of its congener, King Eider* (*S. spectabilis*)." This is, I believe, the first record of this rare nest found on the Atlantic.

SOMATERIA V-NIGRA. *Pacific Eider.*[1]

Abundant in large flocks in spring. I myself obtained specimens that had the decided "V-shaped black mark" on the chin, and was told by the natives that there were "three different species of spring ducks so near alike that you could hardly tell the difference." The occurrence of this species has been doubted by several authorities. I still believe that I can secure specimens and prove its occurrence unquestionably.

80. ŒDEMIA AMERICANA. *Black Scoter.*

Abundant. Breeds by inland ponds.

81. MELANETTA VELVETINA. *White-winged Coot.*

Common in fall, rare in spring. Not known to breed.

82. PELIONETTA PERSPICILLATA. *Sea Coot.*

Common in spring, rare in late fall. Not known to breed.

83. MERGUS MERGANSER AMERICANUS. *Fish Duck.*

I have seen one specimen taken near Fort Island.

84. MERGUS SERRATOR. *Red-breasted Merganser.*

Common in spring and fall. Breeds occasionally.

85. LOPHODYTES CUCULLATUS. *Hooded Merganser.*

Rather rare but occasional.

86. SULA BASSANA. *Gannet.*

Common in Gulf of Saint Lawrence. Occasionally seen near the Labrador coast.

87. PHALACROCORAX CARBO. *Common Cormorant.*

Abundant off Mecattina Islands. Breeds.

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[1] Since confirmed. See *Ornithologist & Oologist*, Aug., Sep., & Oct. (*thrible number*) 1893.

88. PHALACROCORAX DILOPHUS. *Double-crested Cormorant.*
Common with the former.

89. STERCORARIUS POMATORHINUS. *Pomarine Jaeger.*
I have seen a specimen of this species taken I think near mouth of Esquimaux River. Dr. Coues also obtained it.

90. STERCORARIUS PARASITICUS. *Richardson's Jaeger.*
Shot a specimen in Saint Lawrence River, about opposite Point des Monts.

91. STERCORARIUS BUFFONI *Buffon's Jaeger.*
Seen by Dr. Coues.

92. LARUS GLAUCUS. *Burgomaster.*
Not rare. I obtained several specimens. Breeds.

93. LARUS MARINUS. *Great Black-backed Gull.*
Abundant and breeds all along the Labrador coast.

94. LARUS ARGENTATUS SMITHSONIANUS. *Herring Gull.*
Common. Breeds everywhere.

95. RISSA TRIDACTYLA. *Kittiwake Gull.*
Common in spring and fall. Breeds occasionally.

96. LARUS PHILADELPHIÆ. *Bonaparte's Gull.*
Common in large flocks in fall, perhaps spring, but not known to breed on the Labrador coast.

97. STERNA MACRURA. *Arctic Tern.*
An abundant spring and fall migrant in the Gulf.

98. STERNA FLUVIATILIS. *Common Tern.*
Seen at Rigoulette by Dr. Coues.

99. FULMARUS GACIALIS. *Fulmar.*
Recorded by Dr. Coues off Bell Isle.

100. CYMOCHOREA LEUCORRHOA. *Leaches' Petrel.*
Common off coast as far at least as to Bell Isle.

101. PUFFINUS MAJOR. *Greater Shearwater.*
Not rare off shore along the whole coast.

102. PUFFINUS FULIGINOSUS. *Sooty Shearwater.*

A few were seen by Dr. Coues in company with *P. major*.

103. COLYMBUS TORQUATUS. *Loon.*

Abundant. Breeds inland.

104. COLYMBUS SEPTENTRIONALIS. *Red-throated Diver.*

Dr. Coues obtained "two eggs supposed to be of this species at Sloop Harbor, on the 4th of July."

105. COLYMBUS ARCTICUS. *Black-throated Diver.*

Two specimens were obtained of this rare bird off the Labrador coast by one of the French priests at Bersimis, one in 1880.

106. PODICEPS HOLBOELLII. *American Red-necked Grebe.*

Not rare in spring and fall. Occasionally breeds.

107. UTAMANIA TORDA. *Razor-billed Auk.*

Abundant, more so north of Esquimaux River. Breeds.

108. FRATERCULA ARCTICA. *Puffin.*

Abundant on one or two islands near Bradore; not rare in other localities along the coast.

109. ALLE NIGRICANS. *Sea Dove.*

Abundant certain seasons. Occasional all along the coast.

110. URIA GRYLLE. *Black Guillemot.*

Common everywhere in spring and fall. Breeds in certain localities abundantly, though not so much so as either *U. torda*, or *F. arctica*, or *L. troile*.

111. LOMVIA TROILE. *Foolish Guillemot.*

Abundant; more so south of Esquimaux River. Breeds like *U. torda* in vast colonies on the islands along the coast.

112. BRUNNICH'S GUILLEMOT? . *Lomvia Arra.*

More or less common with the last.

REPTILES AND BATRACHIANS.

There are few members of this class to be found on the Labrador coast, yet, strange to say, on one part of the coast, in the marshes about the mouth of Pinway (Black River on the charts) River, about 12 miles from Point Amour Light-House, the air was full of the pipings of some species of frog which I was unable to secure specimens of, as we did not stop at this point. The inhabitants at one or two places along the coast invariably said: "There are frogs at Pinway, but we know of none anywhere else on the coast."

Professor Packard found *Rana septentrionalis* at Okkak, also *Plethodon glutinosa* at Belles Amour. The Reptilian fauna will probably be enlarged, but not to any great extent.

FISHES.

A very few of the species in this most important department have been secured this year, 1882; and though they are only the most common and abundant species, they will perhaps serve to show a part of the characteristic fish fauna of this region.

CTENOLABRUS ADSPERSUS. *Common Blue perch.*

Was very common all about Cape Breton.

GASTEROSTEUS ACULEATUS. *Common Stickleback.*

Abundant in large swarms everywhere about the shoal waters of Cape Breton. I saw two specimens of Gasterosteus biaculeatus, taken off coast in the midst of a large sea, sporting in immense areas close by the vessel.

GASTEROSTEUS PUNGITIUS

Was found occasionally off Cape Breton coast.

OSMERUS MORDAX. *Smelt.*

Common in August, all along the shoal water off the wharfs of Cape Breton.

SCOMBER SCOMBRUS. *Mackerel.*

Seldom taken at all on the Labrador coast, except as isolated individuals or by twos and threes. One person at Triangle Harbor took eight while we were there, but said that he had not taken as many before in as many years.

SALMO SALAR. *Salmon.*

Common everywhere in the mouths of rivers all along the Labrador coast. The most abundant species of all the family.

SALVELINUS FONTINALIS. *Speckled Brook-Trout.*

Abundant in all the streams along the coast, seldom growing large. Is said not to be found in the ponds or far from the mouths of the streams, not mingling much if any with the large sea trout.

MALLOTUS VILLOSUS. *Caperlin.*

Abundant in large colonies in shoal water all along the coast. Used for cod bait, and pursued and fed on by the codfish in the water. When traveling in these large bodies the movements of the whole body seem to be almost simultaneous, and though the front of the phalanx is generally composed of a single fish, the two sides fall off triangularly, so that, strange to say, the change of direction appears, if it is not in reality, to be simply the assuming the chief position by any fish, in any position along the line, while all the others immediately fall into their proper place, and the whole body moves off as an acute triangular shaped mass of living Caperlin. When few in number, they delight to swim singly, or by twos or threes in a long line, repeatedly sinking and swimming under the vessel from side to side, shortly returning again.

CLUPEA HARENGUS. *English Herring.*

Abundant north of Blanc Sablon, growing more and more so all along the Labrador coast, the futher down which are the greatest catches. The *young* fish remain about in the waters *all the year*, if the reports of several different individu-

als can be credited. The people tell me that they refrain from catching the fish until September, so that the young may have a chance to grow to the fine, large fish for which this region is so celebrated, but that the nets might be drawn full of small fish *in any month of the year when the ice did not interfere.*

GADUS MORRHUA. *Common Cod.*

Abundant everywhere; but usually the fish are small, and seldom the size of those taken off the Grand Banks. Most of them go to France, where they seem to be preferred to the large fish. The larger fish are taken chiefly in the deep water —70 to 100 fathoms—the spring and summer fish average 3 to 8 and 10 pounds, and are taken in about 8 to 15 fathoms of water. The Squid is *not* common nor even "not rare" along the Labrador coast. Although it is an *abundant* bait off Newfoundland, it is *very* rare along the Labrador coast.

GADUS OGAC. *Greenland Codfish.*

Occasionally, but rarely, taken in deep water off the Labrador coast. Frequently taken within a mile from shore along the northern part of the coast, especially north of Bell Isle. Often regarded as much more delicate eating than the common cod. Seldom grows large. Swims in bodies with small "tom cods," as they are called, which are probably the young of the common cod.

COTTUS SCORPIOIDES. *Sculpin*

Common in shoal water, about the fish stages, all along the coast.

COTTUS GRŒNLANDICUS. *Northern Sculpin.*

Common, with *scorpioides*, all along the coast.

GYMNACANTHUS PISTILLIGER. *Sculpin*

Rather common in the northern portions along the coast like the others.

HIPPOGLOSSOIDES PLATESSOIDES *Arctic Dab*

Common about the stage heads all along the coast.

PLEURONECTES AMERICANUS. *Common Flounder.*

Rather common usually in deeper water than the *H. platessoides*, along the whole coast.

SOMNIOSUS MICROCEPHALUS.

This species of shark is found not rare all along the coast, some years doing more damage than others. It breaks the fish-nets, stops the fish from attaching themselves to the *trolls* of the fisherman, and is finally captured itself by some of the innumerable hooks of this same troll. After tangling and otherwise ruining the lines to the best of its power, it itself becomes the prey of the fishermen, who curse it heartily. The liver of this fish is said to yield the most delicate and pure oil of any fish known upon the coast. Several portions of the vitals are preserved by the people with the greatest of care, under the supposition that the wearing or carrying of them or the simple having them in the house will prove sure protection against not only the rheumatism, but several diseases peculiar to the male sex.

There are several other species common along the coast but of which we were not fortunate enough to obtain specimens, notably the Launce, or Lance, the fall bait for the codfish. Several other species of trout are also common.

PLANTS.

In reviewing and adding to the excellent list of "Labrador Plants," by the Rev. S. R. Butler (Canadian Naturalist, vol. v, 1870, September, p. 350), it seems necessary to say a few words explanatory of the nature of the regions bordering the sea-coast, as well also of those in the interior of Labrador.

There are two well-defined areas to which I would call attention; a simple designation of them as *sea-coast* and *interior* will present to you the general idea which I wish to convey. I will draw the line, as near as my own observation coincides

with that of others, at somewhere between 2 and 4 miles inland. Of the interior of this whole region very little is known. In summer, woods of mostly low, stunted spruce, with various evergreens, are everywhere abundant, and it is with the utmost difficulty that one can make any progress whatever. Few have attempted to penetrate this area, and we know but little of it. Its accessible edges abound in many plants very similar to ours, especially those crowning the summits of the White Mountains. That part styled the coast differs from the province just mentioned in that it is composed mostly of numerous low, hilly, island crests, everywhere interspersed with narrow straits of water, besides a narrow ribbon of land up and down the coast line itself.

The general flora of all the islands is much the same, but there are localized species of both wild and introduced plants. Mr. Butler makes the following remarks prefatory to his enumeration of species in the above-named paper: "The two places I have most throughly examined are Caribou Island and Forteau Bay. When a plant is marked 'Caribou,' it is meant that I found it only at that place; when 'Forteau' is mentioned, the plant may occur all around Forteau Bay, while 'Amour' means that I found it only at 'L'ance Amour,' and that it is not likely to occur elsewhere in the Bay; and where no locality is specified, the species may be expected to occur at many places, if not all along the coast." The collection of Miss MacFarlane, referred to in the same paper, has also afforded much valuable material. The specimens collected by myself were procured at *Harrington Harbor*, the southernmost limit visited, *Baie des Roches*, *Bonne Esperance* (in and about Salmon Bay); also the "winter quarters" of the inhabitants, a distance of 7 miles inland, up Esquimaux River, and which belongs to the mainland.

The list here presented is impartial and imperfect at best, but it will suffice until a more accurate and thorough examination of the country shall perfect it. The letter B, after a plant signifies that the remarks are by Mr. Butler.

1. ANEMONE PARVIFLORA, Michx.

Common upon the highlands of Forteau. B.

2. THALICTRUM DIOICUM, Linn.

Common on highlands, along the margin of streams, and in the interior visited by me, August 5.

3. THALICTRUM CORNUTI, Linn.

" (Miss Macfarlane, No. 1)."

4. RANUNCULUS ACRIS, Linn.

Rather common on the level grassy plats of Forteau, B., probably more or less distributed all along the coast in suitable localities.

5. COPTIS TRIFOLIA, Salisb.

Rather common in marshy grounds.

6. NUPHAR ADVENA, Aiton.

" In ponds, Caribou." B.

7. SARRACENIA PURPUREA, Linn.

Very abundant in one or two confined areas on the large Mecattina Island, at Harrington Harbor, July 26, and found also in the wet places among the rocks inland, October, 1880.

8. ARABIS ALPINA, Linn.

" Brooksides, Forteau." B.

9. DRABA INCANA, Linn.

" Caribou." B.

10. COCHLEARIA TRIDACTYLITIS, Linn

" Seashore, Caribou." B.

11. COCHLEARIA, ——.

" Hilltops, Forteau." B.

12. CAPSELLA BURSA-PASTORIS, Mœnch.

Probably introduced, abundant at Bonne Esperance about the yard and pathways, August 11.

13. VIOLA BLANDA, Willd.

In greater or less abundance all along the coast in damp localities.

14. VIOLA CANINA, *L.*, var. SYLVESTRIS, Regel.

Distributed much as in the preceding, but in dry localities.

15. DROSERA ROTUNDIFOLIA, Linn.

Not common. It is found in several localities along the coast. I found it in moist places about Bonne Esperance, August 12.

16. SILENE ACAULIS, Linn.

"Hilltops of Amour, also Old Fort Island." B.

17. ARENARIA GRŒNLANDICA, Spreng.

This was found on the summits of many hilly crests at Baie des Roches, and though I did not find it elsewhere I suspect it occurs in like situations all along the coast.

18. ARENARIA PEPLOIDES, Linn.

Quite common, springing up in the sand along the shore. Mr. Butler found it at Caribou and at Forteau. I think it occurs generally.

19. ARENARIA VERNA, Linn.

"Hillsides, Amour." B.

20. ARENARIA LATERIFLORA, Linn.

I suspect pretty generally common, as Mr. Butler remarks, in "level, grassy places."

21. STELLARIA LONGIPES, Goldie.

Common all along the sea-coast. Very common at Bonne Esperance, August 11.

22. STELLARIA LONGIPES, Goldie, var. EDWARDSII, Torr. & Gray.

"(Miss MacFarlane, No. 9. Torrey & Gray very properly reduce this to a variety of the last species)."

23. STELLARIA BOREALIS, Bigelow.

Common on hilly slopes along the coast, especially at Caribou, B., and Bonne Esperance island, August 11.

24. STELLARIA CRASSIFOLIA, Ehrh.

Distributed much the same as *longipes* and *borealis*, occurring in damp localities, August 11.

25. CERASTIUM ALPINUM, Linn.

"Very common at Forteau." B.

26. CERASTIUM ARVENSE, Linn.

"Abundant about Forteau." B.

27. ASTRAGALUS ALPINUS, Linn.

"Hillsides, Amour." B.

28. HEDYSARUM BOREALE, Nuttall.

"Hillsides, Amour." B.

29. OXYTROPIS CAMPESTRIS, D. C.

"Hillsides near Forteau light-house." B.

30. LATHYRUS MARITIMUS, Bigelow.

More or less common all along the coast in dry and moist places and on low land. Early August.

31. LATHYRUS PALUSTRIS, Linn.

"At Caribou," B., and *probably* other places along the coast.

32. POTERIUM CANADENSE, Benth & Hook.

Very common on the dry, sloping flats along the coast. August 6.

33. ALCHEMILLA VULGARIS, Linn.

"Abundant an hillsides, Amour," B. I also found it in several localites along the coast.

34. DRYAS OCTOPETALA, Linn.

"Hilltops, Amour." B.

35. GEUM RIVALE, Linn.

In similar situations as those in which it is found in New England, all along the coast. Early August.

36. POTENTILLA NORVEGICA, Linn.

All along the coast, and in the interior, more or less abundant. August 5.

37. POTENTILLA ANSERNIA, Linn.

On sandy or marshy flats all along the coast, often very abundant, especially so at Harrington Harbor. July 24.

38. POTENTILLA PALUSTRIS, Scopoli.

"Marshy places, Caribou," B.; also at Bonne Esperance. August 6.

39. POTENTILLA TRIDENTATA, Solander.

Equally abundant near the coast and in the interior. August 5.

40. POTENTILLA MACULATA Pourret.

"Hill, Amour." B.

41. FRAGARIA VIRGINIANA, Duchesne.

Found occasionally, but apparently rather rare.

42. RUBUS CHAMÆMORUS, Linn.

One of the most abundant and characteristic plants both in flower and fruit of Labrador; grows everywhere, on plain and hilltop, be it dry or damp. The berry, when ripe, forms the celebrated "Baked Apple" of this region, and is a most delicious article of food. August and September.

43. RUBUS ARCTICUS, Linn.

This is not common, and yet is hardly rare; is found in greater or less abundance all along the coast. August 12.

44. RUBUS TRIFLORUS, Richard.

Rather common on the hilly slopes along the coast.

45. RUBUS STRIGOSUS Michs.

"In inland gulches." B. Quite common, I judge.

46. RUBUS CASTOREUS, Fries.

"Forteau." B.

47. PIRUS AMERICANA, D. C.

Common on the highlands along the coast.

48. P. AMERICANUS var. MICROCARPA.

Not rare.

48*a*. AMELANCHIER CANADENSIS, Torr, & Gray, var. OLIGOCARPA,

Common in swamps and on low grounds everywhere. July 24.

49. RIBES LACUSTRE, Poiret.

"Common in the interior." B.

50. RIBES PROSTRATUM, L'Her.

"Common in the interior." B.

51. SAXIFRAGA AIZOIDES, Linn.

Common in rocky places at Forteau, and other places.

52. SAXIFRAGA OPPOSITIFOLIA, Linn.

"On rocks, Amour." B.

53. SAXIFRAGA CÆSPITOSA, Linn.

"In level sandy places, Forteau." B. I found other specimens, but the locality was lost or mislaid. I think they are from Bonne Esperance, however; late, in July.

54. MITELLA NUDA, Linn.

"Hillsides, Forteau." B.

55. PARNASSIA PARVIFLORA, D. C.

"Hillsides, Amour." B.

56. SEDUM RHODIOLA, D. C.

Very common in localities all along the coast, in damp places; quite abundant at Harrington Harbor and on neighboring islands, July 26.

57. HIPPURUS VULGARIS, Linn.

Rather rare. My specimens were gathered by a small pond in the interior, if I remember correctly, August 2.

58. EPILOBIUM SPICATUM, Lam.

"On hillsides Caribou." B. It is also not rare in the interior. August 5.

59. EPILOBIUM MOLLE, Torr.

At Bonne Esperance and in the interior. Very common. August 5 and 12.

60. EPILOBIUM ALPINUM, Linn.

"Wet places, Forteau." B.

61. EPILOBIUM PALUSTRE, Linn.

Quite common in damp places all along the coast.

62. EPILOBIUM LATIFOLIUM, Linn.

"Sea-shore, Amour." B.

63. HERACLEUM LANATUM, Michx.

"Hillsides and ravines." B.

64. ARCHANGELICA ATROPURPUREA, Hoffm.

"Hillsides and ravines." B

65. LIGUSTICUM SCOTICUM, Linn.

"Caribou." B. In the interior, rather rare. August 5.

66. CORNUS CANADENSIS, Linn.

Abundant everywhere both on the coast and in the interior. A most characteristic species. July and August.

67. LINNÆA BOREALIS, Gronov.

On the highlands at Harrington and other places along the coast. July 24.

68. LONICERA CÆRULEA, Linn.

"On hillsides." B.

69. VIBURNUM PAUCIFLORUM, Pylaie.

"In ravines." B.

70. GALIUM TRIFIDUM, L., var. PUSILLUM, Gray.

I found this species, though I cannot tell the locality from a mislaying of the label, I think it was at Bonne Esperance, or in the interior.

71. ASTER RADULA, Aiton.

All along the sea-shore, August 5 to 15.

72. SENECIO AUREUS, L., var. BALSAMITÆ, Gray.

"In swamps." B.

73. SENECIO PSEUDO-ARNICA, Lessing.

"On hillsides." B.

73*a*. TARAXACUM DENS-LEONIS, Desf.

Not uncommon along the coast; flowers very large usually.

73*b*. CAMPANULA ROTUNDIFOLIA, Linn.

"It grows at Middle Bay, Belles Amour, and L'Anse Am-

our. I have never heard of its being found on any of the islands." B. I found it all along the shore at Forteau; it appears quite common there.

74. VACCINEUM CÆSPITOSUM, Michx.

"On hillsides." B.

75. VACCINEUM ULIGINOSUM, Linn.

Rather common in swampy regions all along the coast.

76. VACCINEUM VITIS-IDÆA, Linn.

Very common on all highlands, August 1 to 15.

77. VACCINEUM OXYCOCCUS, Linn.

Very common in swampy regions, August 1 to 15.

78. VACCINEUM PENNSYLVANICUM, *Cary*,
var. ANGUSTIFOLIUM, *Gray*.

Common on the highlands August 11. All these five species, particularly the four last, are more or less abundant all along the sea-coast.

79. CHIOGENES HISPIDULA, Torrey & Gray.

"(Miss MacF. No. 35.)"

80. CASSANDRA CALYCULATA, Don

"In marshy places." B.

81. ANDROMEDA POLIFOLIA, Linn.

Rather common in ravines and swampy grounds, July 26.

82. KALMIA LATIFOLIA, Linn.

Of this plant Mr. Butler writes me: "I have found it in ravines and near ponds in the interior, up Salmon River, and on Esquimaux Island."

83. KALMIA GLAUCA, Aiton.

With *A polifolia*, rather common at Harrington Harbor as well as more or less so apparently all along the coast.

83*a*. KALMIA ANGUSTIFOLIA, Linn.

"In ravines near ponds in the interior, up Salmon River, and on Esquimaux Island." B.

84. RHODODENDRON RHODORA, Don.

Of this Mr. Butler writes: "I have found it very abundant at one place at the westward of Bonne Esperance, but on that island it only grows sparingly in one little spot. Similarly at Caribou Island, and I saw it nowhere else, though it is probably to be found sparingly all along, but by no means so plentifully as *Kalmia glauca*, which is everywhere." I found it rather common in several places, and also at Harrington Harbor August 2.

85. RHODODENDRON LAPPONICUM, Wahl.

"On a hilltop near Amour." B.

86. LEDUM LATIFOLIUM, Aiton.

Everywhere common on the whole coast. July 26 and August 12.

87. LOISELEURIA PROCUMBENS, Desv.

"On hillsides, Caribou." B.

88. PYROLA ROTUNDIFOLIA, Linn.

"In swamps, Amour." B.

89. MONESES UNIFLORA, Gray.

"In damp, shady places." B.

90. PLANTAGO MARITIMA, Linn.

Not uncommon at Bonne Esperance, August 12.

91. PLANTAGO PAUCIFLORA, Pursh.

"(Miss Macfarlane, No. 42.)" (*P. maritima* or *P. dicipiens*, Barneoud.)

92. ARMERIA VULGARIS, Willd.

"On hilltops, Amour." B.

93. PRIMULA FARINOSA, Linn.

Rather rare at Harrington Harbor and on the neighboring islands, July 24.

94. PRIMULA MISTASSINICA, Michx.

"It grows both at Bonne Esperance and neighboring islands (Fox Island near Caribou)," and Forteau.

95. TRIENTALIS AMERICANA, Pursh.

Quite common on the high grounds in early August.

96. PINGUICULA VULGARIS, Linn.

"In moist places at Bonne Esperance and Forteau (Amour)," B. I found specimens on several of the small islands in damp places in and around Harrington, July 26.

(96*a*.) In a letter Mr. Butler says: "There is a *Pinguicula* which you have omitted, and I believe *stricta* was the specific name, a low, white-flowered species; it grew both at Bonne Esperance and neighboring islands and Forteau." I did not find it, and it was omitted from his list.

97. EUPHRASIA OFFICINALIS, Linn.

Very abundant on portions of Bonne Esperance August 12. "On hillsides, Caribou." B.

98. RHINANTHUS CRISTA-GALLI, Linn.

Very common in places on Bonne Esperance, found all along the coast with E. *officinalis*, in low, moist, but not marshy places, August 12.

99. MERTENSIA MARITIMA, Don.

"In sand on the sea-shore." B.

100. DIAPENSIA LAPPONICA, Linn.

"Common on hill tops at Caribou." B.

101. HALENIA DEFLEXA, Griseb.

On the hillsides at Amour and the lowlands at Bonne Esperance August 12.

102. GENTIANA ACUTA, Hook. f

"On flats, Caribou." B.

103. GENTIANA PROPINQUA, Richards

Distributed much as *H. deflexa*.

104. MENYANTHES TRIFOLIATA, Linn

In a letter Mr. Butler mentions this plant as "found in small pools at Caribou Island and Bonne Esperance. I also found it quite abundant on the shores of a pond at Forteau. Prob-

ably somewhat sparingly distributed along the coast in such places."

105. PLEUROGYNE ROTATA, Grisch.

The plants of this species were furnished by Mr. Butler from Bonne Esperance. I found two poor specimens in the interior near the Mission house, August 5, hardly then in bloom. Mr. Butler also found it "on the flats at Caribou and shores of Esquimaux River."

106. POLYGONIUM VIVIPARUM, Linn.

Quite common at Bonne Esperance, August 11, probably so along the coast.

107. EMPETRUM NIGRUM, Linn.

Common everywhere.

Respecting the dwarf Birches there appears some confusion. I think, however, that the species will stand as I have given them below.

108. BETULA POPULIFOLIA, Ait.

Very abundant everywhere in the woods and on sidehills. An abortive tree very seldom over 20 feet high here. (*B. papyracea, Ait.*, is rare and young here, having been killed by repeated robbings of its bark by the Indians for canoe barks.)

109. BETULA PUMILA, Linn.

"Ascending stems not glandula," (Miss Macfarlane, No. 57).

110. BETULA GLANDULOSA, Michx.

"Ascending stems glandular." "On hillsides everywhere." B.

111. BETULA NANA, Linn.

"(Of Europe.)" "A low trailing shrub." "On hillsides everywhere." B. Reported to me from Old Fort Island.

112. ALNUS SERRULATA, Ait.

Rather common in moist ravines and on hillsides at Old Fort and probably all along the coast.

113. ALNUS VIRIDIS, D. C

Same as last.

114. LARIX AMERICANA, Michx.

In ravines and swampy regions, occasionally on hillsides, common everywhere.

115. JUNIPERUS COMMUNIS, Linn.

On high grounds inland; also hilltops.

116. SPARGANIUM SIMPLEX, Hudson.

"(The vars. *genuinum* and *angustifolium* of Gray) in ponds, Caribou." B.

117. TRIGLOCHIN PALUSTRE, Linn.

In the interior rare or not common; in marshes, August 5.

118. HABENARIA OBTUSATA, Richn.

On dry, elevated grounds, or on hill slopes, "at Caribou," B, and Bonne Esperance, August 12.

119. HABENARIA DILATATA, Gray.

120. HABENARIA HYPERBOREA, R. Br.

"In swamps and on hillsides." B.

121. LISTERA CORDATA, R. Br.

"In ravines, Caribou," B.

122. MICROSTYLIS MONOPHYLLOS, Lindl.

I found this rare orchid in only one locality, a small triangular patch of damp ground, almost wholly concealed by short grass, at Bonne Esperance, August 12. The plant is much smaller than those collected in Massachusetts and Vermont."

123. IRIS VERSICOLOR, Linn.

Common all along the coast.

124. STREPTOPUS ROSEUS, Michx.

Rare in damp ravines and gulches, August 10.

125. STREPTOPUS AMPLEXIFOLIUS, D. C.

"(Miss Macfarlane, No. 62,)" B.

126. CLINTONIA BOREALIS, Rafin.

Rather generally distributed all along the coast. Common, or not rare, August 1 to 15.

127. MAIANTHEMUM CANADENSE, Desf.

Common all along the coast in wet places, August 12.

128. SMILACINA TRIFOLIA, Desf.

Not as common as the last, apparently.

129. SMILACINA STELLATA, Desf.

"On the sea shore."

Mr. Butler mentions but few of the rushes, sedges, or grasses in his list, merely saying that he collected "neither pines, willows, nor glumaceous plants." I give a list of what specimens I collected, but am not able to say anything about their apparent rarity or abundance, as they were collected hastily and indiscriminately; the majority of those I did notice appeared to me to be more or less common; they were named through the kindness of a friend to whom all disputed cases were referred. Unless otherwise mentioned, the locality is the inland "winter quarters" of the inhabitants. Most of them are thought to be characteristic specimens of the region.

130. LAZULA PARVIFLORA, Desv.

"On hills." B.

131. JUNCUS FILIFORMIS, Linn.

132. SCIRPUS CÆSPITOSUS, Linn.

133. ERIOPHORUM CAPITATUM, Host.

"On hilltops." B.

134. ERIOPHORUM VAGINATUM, Linn.

135. ERIOPHORUM VAGINATUM, var. RUSSEOLUM, Fries.

"In swamps and on high hills." B. Rather rare.

136. CAREX CANESCENS, Linn.

137. CAREX MARITIMA, Vahl.

138. CAREX LIMOSA, Linn.

139. AGROSTIS CANINA, Linn.

140. CALAMAGROSTIS LANGSDORFFII, Prin.

141. POA ANNUA, Linn.

142. POA ALPINA, Linn

143. POA PRATENSIS, Linn.

"On the seashore." B. Rather common.

144. FESTUCA OVINA, Linn.

145. ELYMUS MOLLIS, Trin.

"On the sea-shore." B. Rather common.

146. AIRA FLEXUOSA, Linn.

147. HIEROCHLOA BOREALIS, Roem. et Schultez.

"On the seashore." B.

The ferns have received a little more attention, though there are fewer of them.

148. PHEGOPTERIS DRYOPTERIS, Fee.

"On rocks." B.

149. PHEGOPTERIS POLYPODIOIDES, Fee.

"In ravines." B. Both species are more or less abundant all along the coast, the latter more than the former.

150. PELLÆA (ALOSORA) GRACILIS, Hook.

Not very common, but distributed in localities apparently along the coast? Mr. Butler found it "but upon one small rock which had fallen from the cliffs at Forteau; and on my last visit to F. I could not find even that." I am sure I have seen it more than once in my expeditions, but, unfamiliar with its small size and delicate texture, I have not collected and identified it.

151. CYSTOPTERIS FRAGILIS, Bernh.

"Amour." B.

152. CYSTOPTERIS MONTANA, Bernh

"Amour." B.

153. ASPIDIUM SPINULOSUM, Swartz.

Abundant everywhere along the coast and in the interior.

154. ASPLENIUM FELIX-FŒMINA, Bernh.

"On hillsides." B.

155. OSMUNDA CINNAMOMEA, Linn.

Rare. I found several small specimens growing about the

edges of a small pond at Bonne Esperance, August 11, and I believe found it in one or two other places near by.

156. BOTRYCHIUM LUNARIA, Swartz.

Very abundant in a few small spots at Bonne Esperance; found in dry places distributed sparingly along a limited line of coast. "Amour." B.

157. LYCOPODIUM ANNOTINUM. Linn.

"Ravines and hillsides." B.

Several other species were collected this season, but I have been unable to secure names for them as yet.

REVIEWS AND CRITICISMS.

In publishing the preceding list, in the first place, it was presupposed to contain many unintentional errors and to admit, later, of many additions. That the reader may the better understand what corrections to make in the text, we reprint a criticism and the reply to it, which appeared in the *Forest and Stream*, of the respective dates of April 3 and 17, 1884.

"In the fifth volume of the Proceedings of the United States National Museum, there is a paper of twenty-seven pages, entitled 'Notes on the Natural History of Labrador,' by W. A. Stearns.

Mr. Stearns made a summer excursion to Labrador in 1875, and spent nearly a year there in 1880-1881. His examinations were confined to the vicinity of the seaboard. The results of these investigations are contained in this paper; and are presented in the form of briefly annotated lists of mammals, birds, 'reptiles' and batrachians, fishes, and plants. In his introductory remarks, Mr. Stearns states that the spring catch of the Newfoundland and other sealing vessels is from thirteen

to sixteen thousand young seals. As a matter of fact, a single vessel sometimes procures double this number. The annual catch of the Newfoundland sealing fleet rarely falls below two hundred thousand, and commonly ranges between three and four hundred thousand. Twelve times during the present century it has exceeded five hundred thousand; four times it passed six hundred thousand; and once it reached the extraordinary number of seven hundred and forty-six thousand!

In the list of mammals, the silver and black foxes are accorded a varietal distinction.

The ringed seal or floe rat (*Phoca fœtida*) is given as 'not uncommon in harbors in spring and fall. Distinguished from last species [*P. vitulina*] only on closer examination.' In view of the fact that this seal does not rank among the migratory species, is it not possible that a still closer examination would demonstrate its identity with *P. vitulina*? If Mr. Stearns brought back so much as a single skull of the animal in question, and will submit it to either Mr. Allen or myself for examination, the matter can at once be settled.

The absence of the large seal (*Halichœrus grypus*) from the list is surprising. I know from personal observation that it is common at some of the localities mentioned.

Our author says: 'Regarding the deer of Labrador some confusion exists. Two species, about equally common, are found throughout the peninsula in small, or less frequently in large (300 or 400) herds. They are probably the following *Tarandus rangifer*, Brookes var. *Caribou*, woodland caribou; and *Tarandus rangifer*, Brookes, var. *Grœnlandicus*, barren ground caribou: *Alces malchis* (Linne) Gray, the moose, and *Cervus canadensis*, Erxleben, the American elk, have both been reported as found on the southwest portion of Labrador, about north from Anticosti, but they are doubtless very rare and occasional.'

I regret that I cannot agree with Mr. Stearns in considering it probable that both the woodland and barren ground caribou are found in Labrador; and his remarks concerning the

moose and elk are most unfortunate. I have seen no evidence to indicate that the elk ever inhabited the area under consideration; and the moose is known to be restricted in its eastern range (along the north shore of the St. Lawrence) by the Saguenay.

We are informed that the white whale ('*Delphinapterus*' *catodon*) is 'common in the St. Lawrence River, at least as far as Anticosti.' It is equally common at certain seasons off the entire Labrador coast, and great numbers of them annually pass through the Strait of Belle Isle.

'Gray squirrels are said to occur here also, but I did not see any,' writes our author. The failure to inspect the gray squirrel on the far-off rocky coast, should not be attributed to negligence or bad eyesight; for Labrador is not only far north of its known range, but the physiographical conditions that obtain there are such as would preclude its occupancy by this animal, even if the area were not latitudinally excluded from its habitat.

The concluding mammal is the little brown bat (*Vespertilio subulatus*), and the record would be more acceptable were it accompanied by the name of the person who identified the specimen.

The list of birds contains one hundred and eleven species, and some startling statements.

The record of the wood thrush (*Hylocichla mustelina*) has already been queried by Mr. Ridgway, and I will only add that I have found both the hermit and the olive-backed thrush breeding along the north shore of the Gulf of Saint Lawrence.

The pine grosbeak (*Pinicola enucleator*) is given as 'common in fall and winter.' It unquestionably breeds throughout Labrador, and I have myself found it breeding near Point des Monts.

The common *Junco* is said to be 'not rare in spring and fall.' Of course it breeds. The rock Ptarmigan (*Lagopus rupestris*) is cited as 'not rare. Generally common in winter.'

When the author, in referring to the discovery of the nest of the king eider (*Somateria spectabilis*) on an island off Mingan, says that he believes this to be 'the first record of this rare nest found on the Atlantic,' he must employ the term Atlantic in a somewhat restricted sense, for the species is known to breed abundantly in Hudson's Bay and Davis Strait, and probably along Northern Labrador as well.

Mr. Stearns makes the extraordinary announcement that the Pacific eider (*Somaterea v-nigra*) is 'abundant in large flocks is spring.' If this statement can be authenticated, it is certainly a most interesting and valuable contribution to ornithological science.

The Arctic tern (*Sterna macrura*) is given as 'an abundant spring and fall migrant in the gulf.' Large numbers breed at certain places along the coast.

Under the head of 'Reptiles and Batrachians,' our author tells us that we heard frogs 'in the marshes about the mouth of Pinsway River,' and enumerates *Rana septentrionalis* and *Plethodon glutinosa* as having been found by Dr. Packard.

Without mentioning a single reptile he goes on to say, 'The reptilian fauna will probably be enlarged, but not to any great extent,' and passes directly to the consideration of fishes.

Turning to the list of plants, we find 157 species enumerated, twenty-eight of which are glumaceous and cryptogamous. Hence omitting the grasses and sedges, we have but 129 flowering plants, more than fifty of which are included on the authority of the Rev. S. R. Butler, whose list was published in the *Canadian Naturalist*, in 1870. This leaves less than eighty species as the result of our author's botanical investigations during one entire year and two summers. That this is not wholly attributable to the meagre flora of Labrador is evident from the fact that I have myself found, in an hour's time, nearly this number of species growing in a single locality not remote from the seat of our author's labors.

C. Hart Merriam, M. D.

Locust Grove, N. Y., March 12, 1884."

"In your last issue, April 3, I notice with pleasure a somewhat lengthy criticism of my Lists of Natural History of Labrador, as contained in the Proceedings of the U. S. National Museum, soon to appear. I notice it, I say, with pleasure, as I believe that there is no true naturalist or author but who, while deploring his own errors, will not only invite criticism but will thank his critic.

Mr. Merriam has often visited the north shores of the St. Lawrence, and his name was quite familiar with Mr. Napoleon Comeau, of Godbout River; Mr. Scott, of the Hudsons' Bay Company's post at Mingan; and also Mr. Cante, of Whale Head. Let me ask Mr. Merriam, however, did he follow down the shores of the river and gulf and extend his research in Labrador, since all the region west of Blanc Sablon belongs to the Province of Quebec? I doubt if he has. Let me say, therefore, that I defy him, or any other person, to collect of the flora of Labrador, eighty species of plants, including every specimen of both phenerogams and ferns that he can procure, in three weeks' time anywhere on the coast of Labrador proper, which is bleak and barren land compared to the vicinity of Mingan and its surrounding Province of Quebec.

My lists are intended as aid to future investigation, and are presumably imperfect to start with. That they contain errors is apparent to anybody. I am glad that Mr. Merriam points out some of them. It is well to say, however, that I visited the region both times more for my health than otherwise, and gave more attention to the sports of fishing and shooting (and their accompanying pleasures of feasting) than to collecting. My last voyage was given to collecting invertebrates, and its results sent to Profs. Verrill and Baird. These results appear in the same volume.

Further. I do not wish to hold anybody responsible for my errors but myself, yet the lists Mr. Merriam criticises so sharply were all prepared under Mr. Robert Ridgway's personal supervision, who had authority to change any names that he wished or suppress any information contained therein at his own option

Be facts and errors what they may, I consider that an inaccuracy in transcribing the title and place of any scientific paper is greater than all the errors of the paper combined, and when Mr. Merrian starts his article by saying that the beforementioned lists are contained in the fifth volume of the Proc. U. S. Nat. Mus., I feel bound to say, for the benefit of any who may desire to refer to them, that it is the sixth volume of said Proceedings, and that they have not yet appeared in book form, but that a few can be supplied to those desiring them as extras without charge.

Now for the errors in question. The estimate of young seals or 'whitecoats' should read, and was so intended by the author, as the catch of Labrador vessels, and as such I believe the statement is correct.

The silver and black fox are 'accorded [a] varietal distinction,' I believe justly. Of the ringed seal I have two specimens at, Bonne Esperance, 'salted down' with others, and when these are secured, as I expect they will be this summer, both Mr. Allen and Mr Merriam shall have the pleasure of examining them. I now believe that they will be found eventually more common than is generally believe upon the coast.

I still doubt if the *Halichœrus grypus* is found, rarely at any rate, on the coast of Labrador proper. My remarks upon the elk and moose, given provisionally, are true as far as the statement goes. While there, specimens of deer were brought in fresh killed from large herds, which differed so much in size, color, and shape, that one would easily believe them distinct species without the statement of the natives that their habits were not the same. The white whale doubtless occurs as Mr. Merriam states. As to the gray squirrel, I saw two skins, said to be taken on the coast, but I suppressed further mention of them for want of more positive evidence. The brown bat is still somewhere in my collections and shall be 'hunted up' at once.

With the birds, the records of wood thrush was a mistake, the bird being, doubtless as Mr. Ridgway remarks, *H. aliciæ*.

The record of king eider breeding off Mingan was doubtless misleading. It should have read, 'The first record south of Hudson's Straight.' None of Mr. Merriam's other remarks need commenting upon, as they amount to little more than a review of the author's own words by quoting the same without any material remarks. The 'glaring inconsistency,' if such it in reality be, is contained in the 'extraordinary announcement' respecting *Somateria v-nigra*. Of that a few words, and I submit lists, errors, and reply to the public. The author confesses that, to use a slang phrase, he may be "way off" in this announcement; he still believes that he can sustain his position. Too much credit must not be given to the 'natives' in cases of scientific accuracy, yet everywhere in spring the 'natives' recognize three kinds of 'passing ducks.' One kind stay and breed — the eider proper. Two kinds, they say, remain each only a few weeks and then disappear. Of these, if there be two, one is the king eider, *S. spectabilis*. I have shot these by the dozen from flocks of as many thousands, while the native gunners kept saying, 'wait, and you'll get the other kind;' and then again, 'There's another kind yet that you haven't got.' One day, while shooting, several of the gunners pounced upon a duck I had just shot and exclaimed,' There's the other kind.' I hastily examined the bird, but could find little or no difference between it and the king eider a pile of which latter birds lay near us on the rocks. Now, one thing I know, in one of the so-called 'kinds' the black mark of the chin was rounded at its apex, in the other it was as clean cut a V-point as it was possible to make it. I laid the birds aside to stuff, and the not-too scrupulous cook consigned it to the oven in my absence as the fattest one in the mess. I heard occasionally from other parties along the coast who had 'shot the other kind of passing ducks,' but did not secure another specimen. I still believe I can procure suitable specimens of *S. v-nigra* from Labrador. Of this kind, if it so be, the gunners say. 'It only stays here a week or ten days,' and is not found like 'the other passing duck,' all the spring."

W. A. STEARNS.

AMHERST, April 4, 1884

List of the Crustacea dredged on the Coast of Labrador by the Expedition under the Direction of W. A. Stearns, in 1882.

BY SIDNEY I. SMITH.

The collection, the crustacea from which are here enumerated, was made in August, 1882, by an expedition under the direction of Mr. W. A. Stearns. The dredgings, which were all in shallow water, were made by Messrs. Stearns, B. S. Barrows, Edwin R. Flint, J. A. Allen, and Charles L. Flint, jr. The collection was made at different points along the coast from Forteau Bay to Dead Island. The principal localities are: Forteau Bay, about north latitude 51° 30′, west longitude 56° 55′; L'anse au Loup, about 51° 33′, and 56° 48′; Temple Bay, about 52° 2′ and 55° 55′; Henley Harbor, near the mouth of Temple Bay; Fox Harbor, on St. Lewis Sound; and Dead Island, near Square Island, about 52° 48′ and 55° 48′. A part of the specimens were sent to the Museum of Yale College by Messrs. Barrows and Allen, of the Sheffield Scientific School, and the rest were sent to the National Museum by Mr. Stearns. Both parts of the collection are combined in the following list.

The preparation of this list has involved a more or less critical examination of the lists of crustacea of the same region given by Professor Packard, and, having had access to a set of the specimens upon which Professor Packard's work was based, I have attempted to revise the marine crustacea of his lists, and have embodied this revision in a catalogue of all the species known from the Labrador coast, which is given in the paper following the present list.

BRACHYURA.

HYAS ARANEUS, Leach.

Forteau Bay, 20 fm, 11 young.

L'anse au Loup, 15 fm, sand, 1 male, 1 female, large, and 8 small.

Henley Harbor, shallow water, 1 male and 1 female, large.

HYAS COARCTATUS, Leach.

Henley Harbor, 8 fm, 1 large male.

Henley Harbor, shoal water, 1 large female, 2 small.

Temple Bay, 1 large female.

ANOMURA.

EUPAGURUS PUBESCENS, Brandt.

L'anse au Loup, 10 fm, 1 large, 4 small.

L'anse au Loup, 15 fm, 3 small.

Henley Harbor, shoal water, 2 large and small.

Temple Bay, 10 fm, 1 small.

Fox Harbor, 3 fm, sand, 1.

Dead Island, 1-3 fm, rocky, 1 large.

EUPAGURUS KROYERI, Stimpson.

Henley Harbor, 3-8 fm, 2 small.

Henley Harbor, 10-15 fm, 3 small.

Temple Bay, 10 fm, rocky, 4 small.

Dead Island, nullipore, 1 small.

MACRURA.

CERAPHILUS BOREAS, Kinahan (*Crangon boreas*, Fabricius).

L'anse au Loup, 8-10 fm, 3 females.

Henley Harbor, 3 females.

Dead Island, 1-3 fm, rocky, 1 female.

NECTOCRANGON LAR, Brandt.

Henley Harbor, 10 fm, 1 female.

Dead Island, nullipore, 1 small.

HIPPOLYTE FABRICII, Kroyer.

Forteau Bay, 20 fm, 5 young.

L'anse au Loup, rocky, 6 small.

L'anse au Loup, 15 fm, sand, 2.

Henley Harbor, 10-15 fm, 4 small.

Fox Harbor, 1 fm, 2 males, 1 female.

Dead Island, 3 fm, 1 female.

The female from Fox Harbor has well-developed epipods

on each of the second pair of legs. This specimen, which is normal in other respects, gives the following measurements: Length, 51mm.; length of carapax, including rostrum, 19.2; rostrum, 9.3; antennal scale, 9.1; sixth somite of abdomen, 6.6; telson, 8.4.

HIPPOLYTE GAIMARDII, Milne-Edwards.

L'anse au Loup, 11 and 15 fm, 3 young.

L'anse au Loup, 8 fm, rocky, 5 large females, 3 males, 2 young.

Henley Harbor, 10 fm, 2 large females, 1 with eggs.

The female carrying eggs is 58mm. long, and has the rostral formula three plus six divided by three. One of the males from L'anse au Loup, 34mm. long, and with the rostral formula three plus three divided by four, has a well-marked laterally compressed dorsal prominence on the third somite of the abdomen. A large male from the same place, 37mm. long and with the rostral formula three plus three divided by six, has the prominence much more conspicuous and approximating closely to the Kroyer's figure of *Hippolyte gibba*, which is undoubtedly only the adult form of the male of *H. Gaimardii*, as it has been regarded by Goes.

HIPPOLYTE SPINUS, White.

Henley Harbor (*a*), shoal water, 1 male, large.

Henley Harbor (*b*), 10-15 fm, 1 large male, 2 females.

Temple Bay (*c*), rocky, 1 large male.

The three males and one of the females give the following measurements in millimeters:

Locality	*a.*	*b.*	*c.*	*d.*
Sex	male	male	male	female
Length	56	52	46	46
Length of carapax including rostrum	20.1	20.0	15.7	15.1
Length of rostrum	8.9	9.9	7.3	6.7
Length of antennal scale	8.3	8.4	7.0	6.6
Length of sixth somite of abdomen	6.2	6.0	5.4	4.8
Length of telson	10.4	10.3	8.5	7.9

HIPPOLYTE PHIPPSII, Kroyer.

L'anse au Loup, 8 fm, 1 female.

HIPPOLYTE POLARIS, Ross.

Dead Island, 3 fathoms, seaweed—eight females, all carrying eggs. All the specimens have the dorsal edge of the rostrum just as in *H. Fabricii*, that is, wholly unarmed except near the base, nearly straight, and horizontal. Although all the specimens are rather large, seven of them have only three teeth on the dorsal crest, two on the carapax, and one on the rostrum, while the other specimen has but four teeth in all. Two of the specimens have a well-developed epipod at the base of one of the third pair of legs, one has a well-developed epipod at the base of each of the third pair of legs, while the other specimens are, as usual, without epipods at the bases of the third pair of legs. In other respects the specimens are normal.

Four of the specimens give the following measurements in millimeters:

Length	46	48	57	59
Length of carapax including rostrum	17.1	17.0	21.5	22.7
Length of rostrum	7.8	8.6	10.4	10.9
Length of antennal scale	7.0	6.8	9.1	9.4
Length of sixth somite of abdomen	5.0	4.9	6.7	6.8
Length of telson	7.4	7.1	9.0	9.5

HIPPOLYTE GRŒNLANDICA, Miers.

L'anse au Loup, 10 to 15, 1 female, 1 young.

Fox Harbor, 1 fm, 1 female.

Dead Island, 1-4 fm, 11 males, female, young.

PANDALUS MONTAGUI, Leach.

Forteau Bay, 20 fm, 1 young.

L'anse au Loup, 8-15 fm, 11, all small.

Temple Bay, rocky, 3, all small.

Temple Bay, 10 fm, 1, small.

SCHIZOPODA.

MYSIS OCULATA, Kroyer.

A few fragments from Dead Island.

CUMACEA.

DIASTYLIS RATHKII, Bate.
Fox Harbor, 3 fathoms, sand; abundant.

AMPHIPODA.

HYPERIA MEDUSARUM, Bate
Dead Island, 1 specimen.

ANONYX NUGAX, Miers.
Henley Harbor, 10–15 fathoms, 1, imperfect.
Fox Harbor, 3 fathoms, 1, young.

ORCHOMENE MINUTUS, Boek.
Henley Harbor, 10–15 fathoms, 1 specimen.

PONTOPOREIA FEMORATA, Kroyer.
Fox Harbor, 1-4 fm, 2 specimens.

PHOXUS HOLBOLLI, Kroyer.
L'anse au Loup, 15 fm, 1 specimen.

ACANTHOZONE CUSPIDATA, Boeck.
Temple Bay, 10 fm, 1 specimen.

ACANTHONOTOZOMA SERRATUM, Boeck
Dead Island, shallow water, 1 specimen.

ACANTHONOTOZOMA INFLATUM, Boeck.
L'anse au Loup, 8 fm, rocky, 1 specimen.

ŒDICEROS LYNCEUS, M. Sars.
Forteau Bay, 20 fm, 10 specimens.
L'anse au Loup, 15 fm, 6 specimens.
Henley Harbor, 10-15 fm, 4 specimens.
Temple Bay, 10 fm, 2 specimens.

PLEUSTES PANOPLUS, Bate.
L'anse au Loup, 10 fm, 1 specimen.

GAMMARAS LOCUSTA, Fabricius
Fox Harbor, 1-4 fm, abundant.

MELITA DENTATA, Boeck.
Henley Harbor, 10-15 fm, 2 specimens.
Temple Bay, 10 fm, 1 specimen.

RHACHOTROPIS ACULATA, Lepechin sp.
Henley Harbor, 10-15 fm, 4.
Temple Bay, 10 fm, 1.

AMPELISCA MACROCEPHALA, Lilljeborg.
L'anse au Loup, 10 fm, 1.
Henley Harbor, 10-15 fm, 2.

BYBLIS GAIMARDII, Kroyer.
Henley Harbor, 10-15 fm, 1.
Temple Bay, 2.
Dead Island, 2-4 fm, 1.

CAPRELLA SEPTENTRIONALIS, Kroyer.
Henley Harbor, 1 specimen

ISOPODA.

PHRYXUS ABDOMINALIS, Lilljeborg (Kroyer).
L'anse au Loup, one specimen on a female *Hippolyte Gaimardii.*

JÆRA ALBIFRONS, Leach.
Fox Harbor, one specimen.

COPEPODA.

LERNÆA BRANCHIALIS, Linn. vir. SIGMOIDEA, Steenst. & Lutken.
One specimen.

CIRRIPEDIA.

BALANUS CRENATUS, Bruguiere.
L'anse au Loup, 10 fm.

RHIZOCEPHALA.

PELTOGASTER PAGURI Rathke.
Henley Harbor, one specimen on *Eupagurus pubescens* from shallow water.

NEW HAVEN, CONN., *May* 1, 1883.

Review of the Marine Crustacea of Labrador.

BY SIDNEY I. SMITH.

Almost the only source of information in regard to the crustacean fauna of the coast of Labrador has been Professor Packard's "A list of the animals dredged near Caribou Island,

southern Labrador, during July and August, 1860" (Canadian Naturalist and Geologist, viii, pp. 401-429 (1-29), December, 1863), and his "View of the recent invertebrate fauna of Labrador" (Memoirs Boston Soc. Nat. Hist., i, pp. 262-303, pll. 7, 8, 1867). At the time these papers were written it was exceedingly difficult in this country to identify the marine invertebrata of our northern coast, and the lists of crustacea given by Professor Packard were necessarily very imperfect; the species described as new had apparently been previously described by European authors; the identifications were in many cases incorrect; and in several cases the same species appears under different names. Of this last class of errors several are due to the fact that some of the Amphipoda were identified for Professor Packard by Dr. Axel Boeck, others were determined by comparison with Arctic specimens from Dr. Lutken, of Copenhagen, while still others were determined from the published description by American and European authors. In the following pages I have attempted not only to revise Professor Packard's lists, but also to give a complete catalogue of all the species known from the Labrador coast. In determining Professor Packard's species I have been greatly aided by a set of his specimens collected in 1864 and labeled by him for the museum of Yale College. This collection has enabled me to determine many of the species enumerated by Professor Packard which were otherwise indeterminable, and also to add a number of species overlooked or incorrectly determined by him. The nomenclature adopted for the Amphipoda is mainly that of Boeck (Skandinaviske og Arktiske Amphipoder), and for the Isopoda that of Harger (Marine Isopoda of New England, Report U. S. Fish Com., part iv, for 1878). I have not attempted to give synonymy except to show to what species the names in Professor Packard's lists are referred, but I have intended to insert references to all the names of marine species in each of his lists. For the distribution of the species along the Labrador coast I have thought it sufficient to indicate only whether the species has been found

on the Gulf or Atlantic coast, or on both coasts, and for this purpose I arbitrarily divide the coast at 51° 50′ north latitude, a little south of Chateau and Temple Bays, regarding all south and west of this point as Gulf coast and all north of it as Atlantic coast. When not otherwise indicated the regions from which I have examined specimens are followed by a mark of affirmation (!).

BRACHYURA.

CANCER IRRORATUS, Say.

Cancer borealis Packard, Canadian Nat. and Geol., viii, pp. 402 (2), 419 (19), 425 (25), 1863; Mem. Bost. Soc. Nat. Hist., i, p. 303, 1867.

Straits of Belle Isle! (Packard). Packard also says that he was informed that it was found at Hamilton Inlet.

CHIONŒCETES OPILIO, Kroyer.

Packard, Canadian Nat. and Geol., viii. p, 419 (19), 1863 (*Chionocetes*); Mem. Bost. Soc. Nat. Hist., i, p. 302, 1867.

Straits of Belle Isle, 10 to 50 fathoms and Chateau Bay, 30 to 50 fathoms (Packard). Young specimens sent to the museum of Yale College by Packard are labeled "Henley Harbor."

HYAS ARANEUS, (Linn.).

Packard, Canadian Nat. and Geol., viii, pp. 419 (19), 425 (25), 1863 (*aranea*); Mem. Bost. Soc. Nat. Hist., i, p. 302, 1867 (*aranea*).

Gulf coast! (Packard, Stearns exped.); Atlantic coast! Packard, Stearns exped.).

HYAS COARCTATUS, Leach.

Packard, Canadian Nat. and Geol. viii, p. 419 (19), 1863 (*coarctata*); Mem. Bost. Soc. Nat. Hist., i, p. 302, 1867 (*coarctata*).

Gulf coast! (Packard)! Atlantic coast! (Packard, Stearns exped.).

ANOMURA

EUPAGURUS PUBESCENS, Kroyer (Brandt).

Packard, Canadian Nat. and Geol. viii, 419 (19), 425 (25), 1863; Mem. Bost. Soc. Nat. Hist., i, p. 302, 1867.

Gulf coast! (Packard, Stearns exped.); Atlantic coast! (Packard, Stearns exped.).

EUPAGURUS KROYERI, Stimpson.

Packard, Mem. Bost. Soc. Nat. Hist., i, p. 302, 1867. Whole coast (Packard); Atlantic coast! (Stearns exped.).

MACRURA.

HOMARUS AMERICANUS, Milne-Edwards.

Packard, Canadian Nat. and Geol., viii, pp. 402 (2), 419 (19), 425 (25), 1863; Mem. Bost. Soc. Nat. Hist., i, p. 302, 1867.

Gulf coast, and rare at Henley Harbor (Packard).

CERAPHILUS BOREAS, Kinahan (Phipps).

Crangon boreas Fabricius (Phipps).—Packard, Canadian Nat. and Geol., viii, p. 425 (25), 1863; Mem. Bost. Soc. Nat. Hist., i, p. 302, 1867.

Gulf coast! (Packard, Stearns exped.); Atlantic coast! (Packard, Stearns exped.).

CRANGON VULGARIS, Fabricius (Linn.).

Packard, Canadian Nat. and Geol., viii, p. 425, 1863; Mem. Bost. Soc. Nat. Hist., i, p. 302, 1867.

Caribou Island, Straits of Belle Isle (Packard).

SABINEA SEPTEMCARINATA, Ross (Sabine).

Packard, Mem. Bost. Soc. Nat. Hist., i, p. 302, 1867.

Atlantic coast (Packard).

NECTOCRANGON LAR, Brandt (Owen).

Argis lar Packard, Canadian Nat. and Geol., viii, pp. 419 (19), 425 (25), 1863; Mem. Bost. Soc. Nat. Hist., i, p. 302, 1867.

Atlantic coast! (Packard, Stearns exped.).

HIPPOLYTE FABRICII, Kroyer.

Packard, Canadian Nat. and Geol., viii, p. 424 (24), 1863; Mem. Bost. Soc. Nat. Hist., i, p. 302, 1867.

Gulf coast! (Stearns exped.); Atlantic coast! (Packard, Stearns exped.).

HIPPOLYTE GAIMARDII, Milne-Edwards.

Packard, Canadian Nat. and Geol., viii, p. 424 (24), 1863; Mem. Bost. Soc. Nat. Hist., i, p. 302, 1867 (*Gaimardi*).

Gulf and Atlantic coasts! (Packard, Stearns exped.).

HIPPOLYTE SPINUS, White (Sowerby).

Hippolyte spini Packard, Canadian Nat. and Geol., viii, p. 419 (19), 1863 (Caribou Island).

Hippolyte Sowerbyi Packard, Mem. Bost. Soc. Nat. Hist., i, p. 301, 1867 (Square Island).

Gulf coast! (Pack.); Atlantic coast! (Pack. & Stearns exp.)

HIPPOLYTE PHIPPSII, Kroyer.

Hippolyte Phippsii Packard, Mem. Bost. Soc. Nat. Hist., i, p. 301, 1867 (Domino Harbor).

Hippolyte turgida Packard, loc. cit., p. 301, 1867 (Strait of Belle Isle).

Gulf coast! (Stearns exped.); Atlantic coast (Packard).

HIPPOLYTE MACILENTA, Kroyer.

Packard, Mem. Bost. Soc. Nat. Hist., i, p. 301, 1867.

Atlantic coast! (Packard).

HIPPOLYTE POLARIS, Ross (Sabine).

Packard, Canadian Nat. and Geol., viii, p. 424 (24), 1863; Mem. Bost. Soc. Nat. Hist., i, p. 301, 1867.

Gulf coast (Packard); Atlantic coast! (Packard, Stearns exped.).

Only one specimen from Labrador was sent to the Museum of Yale College by Packard. This specimen, a female 31mm. long, differs from ordinary specimens in having the tip of the telson armed with five median ciliated spines, with two stout spines each side, making nine in all.

HIPPOLYTE GRŒNLANDICA, Miers (J. C. Fabricius).

Hippolyte aculeata Packard, Canadian Nat. and Geol., viii, p. 424, 1863; Mem. Bost. Soc. Nat. Hist., i, p. 301, 1867.

Gulf coast! (Packard, Stearns exped.); Atlantic Coast! (Packard, Stearns exped.).

PANDALUS MONTAGUI, Leach.

Pandalus annulicornis Packard, Canadian Nat. and Geol., viii, p. 424 (24), 1863; Mem. Bost. Soc. Nat. Hist., i, p. 301, 1867.

Gulf coast! and Atlantic coast! (Packard, Stearns exped.).

SCHIZOPODA.

MYSIS OCULATA, Kroyer (O. Fabricius).

Mysis spinulosus Packard, Canadian Nat. and Geol., viii, p. 419 (19), 1863. *Mysis oculata* Packard, Mem. Bost. Soc. Nat. Hist., i, p. 301, 1867.

"Abundant along the whole coast" (Packard); Atlantic coast! (Stearns exped.).

CUMACEA

DIASTYLIS RATHKII, Bate (Kroyer).

Alauna Goodsiri Packard, Mem. Bost. Soc. Nat. Hist., i, p. 301, 1867.

Gulf coast! (Packard); Atlantic coast! (Packard, Stearns exped.).

PHYLLOCARIDA.

NEBALIA BIPES, Fabricius.

Packard, Mem. Bost. Soc. Nat. Hist., i, p. 295, 1867.

Atlantic coast (Packard).

AMPHIPODA.

HYPERIA MEDUSARUM, Bate (Muller).

Packard, Mem. Bost. Soc. Nat. Hist., i, p. 297, 1867.

Atlantic coast! (Packard, Stearns exped.). I have not seen Packard's specimens. He quotes as a synonym "*Metoecus medusarum* (Fabr.) Kr.," which is not an *Hyperia*, but the Greenlandic *Tauria medusarum* Boeck, which may possibly be the species to which Packard's specimens belong.

ANONYX NUGAX, Miers (Phipps).

Anonyx ampulla Kroyer, Naturh. Tidsk. II, i, p. 578, 1841.

"*Anonyx ampulla* (Phipps), Voyage, 1873", Packard, Mem. Bost. Soc. Nat. Hist., i, p. 300, 1867.

Anonyx lagena Packard, loc. cit., p. 301.

Lysianassa appendiculata [*appendiculosa*] Packard, loc. cit., p. 301.

Atlantic Coast! (Packard, Stearns exped.).

Cancer ampulla, Phipps, was supposed by Kroyer to be this species, but it really belongs to Kroyer's genus *Stegocephalus*, and is *S. ampulla*, Bell, (*S. inflatus*, Kroyer); so that it might appear doubtful what species Packard included under "*Anonyx ampulla*, (Phipps)" were it not that he says that it was "compared with arctic specimens received from Copenhagen," which seems to leave no doubt that he really had in view *Anonyx nugax*, although he subsequently, as indicated above, enumerates this same species under two other names.

ANONYX PUMULUS, Lilljeborg.

"*Anonyx producta*, fide Boeck," Packard, Mem. Bost. Soc. Nat. Hist., p. 301, 1867.

I have seen no specimens. The species is placed immediately after "*Anonyx Horringii*" by Packard, who says only "these two forms were found together in fifteen fathoms, sand," although under the first of the two species he has nothing except the remark, "A common form, occurring abundantly on the coast of Maine, in Casco Bay, ten fathoms."

ONISIMUS EDWARDSII, Boeck (Kroyer).

Atlantic coast! (Packard's collection). This species is not mentioned by Packard, but a single specimen of it was sent, with *Anonyx nugax*, by him to the Museum of Yale Col-

lege. In the form of the epimeron of the third somite of the abdomen, however, this specimen does not agree fully with Kroyer's figure in the Voyages en Scandinavie, nor with Boeck's diagnosis, but with Miers's description and figure (Ann. Mag. Nat. Hist., IV, xx, p. 99, 1877), the acute postero-lateral angle of the epimeron being slightly upturned.

ORCHOMENE MINUTUS, Boeck (Kroyer).

Atlantic coast! (Stearns exped.). Not mentioned by Packard, but all the specimens sent to the Museum of Yale College as "*Anonyx Horringii*" are apparently of this species, which occurs upon the New England coast, and is sometimes very abundant in Vineyard Sound in winter.

TRYPHOSA HORINGII, Boeck.

? "*Anonyx Horringii* fide Boeck." Packard, Mem. Bos. Soc. Nat. Hist. i, p. 300

Boeck undoubtedly had specimens of this species from Packard's collection, for he (Skandinaviske og Arktiske Amphipoder, p. 184) distinctly mentions it as having been found in Labrador by Packard, but, as just noticed, all the specimens sent by Packard under the above name to the Museum of Yale College belong to Boeck's genus *Orchomene*, so that it is very doubtful if the "common form, occurring abundantly on the coast of Maine" was the same species as the specimens sent to Boeck.

PONTOPOREIA FEMORATA, Kroyer.

Packard, Mem. Bost. Soc. Nat. Hist., i, p. 300, 1867

Gulf coast! (Packard); Atlantic coast! (Stearns exped.).

PHOXUS HOLBOELLI, Kroyer.

Gulf coast! (Stearns exped.).

ACANTHOZONE CUSPIDATA, Boeck (Lepechin).

Gulf coast! (Stearns exped.).

ACANTHONOTOZOMA SERRATUM, Boeck (O. Fabricius)

Atlantic coast! (Stearns exped.).

ACANTHONOTOZOMA INFLATUM, Boeck (Kroyer).

Gulf coast! (Stearns exped.).

ŒDICEROS LYNCEUS, M. Sars.

Monoculodes nubilatus Packard, Mem. Bost. Soc. Nat. Hist., i, p. 298, pl. 8, fig. 4, 1867.

Gulf coast! (Stearns exped., Packard); Atlantic coast! (Packard, Stearns exped.).

PLEUSTES PANOPLUS, Bate (Kroyer).

Amphithonotus cataphractus Packard, Mem. Bost. Soc. Nat. Hist., i, p. 298, 1876.

Gulf coast! (Stearns exped.); Atlantic coast! (Packard).

PLEUSTES BICUSPIS, Boeck (Kroyer).

A single specimen of this species was sent, with "*Atylus* (*Paramphitoe*) *inermis*" (see *Halirages fulvocinctus*), to the Museum of Yale College by Packard. No special locality was given for the specimens, but they were most likely from Henley Harbor, as that is the only locality given by Packard for the "*Atylus*."

PONTOGENIA INERMIS, Boeck (Kroyer).

Atylus vulgaris Packard, Mem. Bost. Soc. Nat. Hist., i, p. 298, 1867.

Atlantic coast! (Packard).

HALIRAGES FULVOCINCTUS, Boeck (M. Sars).

"*Atylus* (*Paramphitoe* [—*thoe*]) *inermis* (Kroyer, fide Boeck)," Packard, Mem. Bost. Soc. Nat. Hist., i, p. 298, pl. 8, figs. 3–3*b*, 1867.

Atlantic coast! (Packard).

The specimens sent to Europe and identified by Boeck as above quoted by Packard were undoubtedly *Pontogenia inermis*, but the species described and figured by Packard under the name given by Boeck is certainly distinct from that species. Two specimens which were evidently supposed by Packard to be the species described by him were sent to the Museum of Yale College under a manuscript name as a new species of *Atylus*: one of these specimens, as stated above, is *Pleustes bicuspis*, and is evidently not the species described and figured by Packard; the other specimen is *Halirages fulvocinctus* and is, I think, the species described and figured by him. Packard describes his species as having "the first three abdominal segments produced into three strongly-hooked projections, the third of which is much the largest; fourth segment

deeply, broadly sinuate"; but, as his figure shows, it is the last thoracic and first two abdominal somites which are produced, and the fourth abdominal which is sinuate. Excepting this and the rounded instead of angular abdominal epimera, the description and figure agree with *Halirages fulvocinctus*.

CALLIOPEUS LÆVIUSCULUS, Boeck (Kroyer).

Calliope lævinscula Packard, Canadian Nat. and Geol., viii, p. 425 (25), 1863 (*lævinscula*); Mem. Bost. Soc. Nat. Hist., i, p. 279, 1867.

Atlantic coast! (Packard).

GAMMARUS LOCUSTA, Fabricius.

Gammarus mutatus Packard, Canadian Nat. and Geol., viii, pp. 402 (2), 419 (19), 425 (25), 1863.

Gammarus locusta Packard, Mem. Bost. Soc. Nat. Hist., i, p. 297, 1867.

Gulf coast! (Whiteaves); Atlantic coast! (Stearns exped.); "whole coast" (Packard).

MELITA DENTATA, Boeck (Kroyer).

Gammarus purpuratus Packard, Canadian Nat. and Geol., viii, p. 402 (2), 1863. *Gammarus dentatus* Packard, Mem. Bost. Soc. Hist., i, p. 279, 1867.

Gulf coast (Packard); Atlantic coast! (Packard, Stearns exped.).

RHACHOTROPIS ACULEATA, Smith (Lepechin).

Amphitonotus Edwardsii Packard, Mem. Bost. Soc. Nat. Hist., i, p. 298, 1867.

Atlantic coast! (Packard, Stearns exped.).

AMPELISCA ESCHRICHTII, Kroyer.

Packard, Canadian Nat. and Geol., viii, p. 419 (19), 1863; Mem. Bost. Soc. Nat. Hist., i, p. 300, 1867.

Gulf coast! (Packard). No special locality was given for the specimens sent as this species to the Museum of Yale College by Packard, but they are presumably from Caribou Island, the only locality mentioned in his papers. Specimens of this species were, however, sent by him with *A. macrocephala* and *Byblis Gaimardii* from Chateau Bay.

AMPELISCA MACROCEPHALA, Lilljeborg.

Amplisca pelagica Packard, Canadian Nat. and Geol., viii, p. 419 (19), 1863; Mem. Bost. Soc. Nat. Hist., i, p. 300, 1867.

Gulf coast! (Packard, Stearns exped.); Atlantic coast! (Packard, Stearns exped.).

HAPLOOPS TUBICOLA, Lilljeborg.

Packard, Mem. Bost. Soc. Nat. Hist., i, p. 300, 1867.

Atlantic coast! (Packard). There were specimens of this species sent to the Museum of Yale College with *Ampelisca Eschrichtii*, which were probably from Caribou Island, as mentioned under that species.

BYBLIS GAIMARDII, (Kroyer).

Ampelisca Gaimardi Packard, Mem. Bost. Soc. Nat. Hist., i, p. 299, pl. 8, figs. 1, 1*a*, 1867.

Atlantic coast! (Packard, Stearns exped.).

AMPHITHOE PODOCEROIDES, Rathke, 1843.

Amphithoe maculata Stimpson, Invert. Grand Menan, p. 53, 1853; Packard, Mem. Bost. Soc. Nat Hist., i, p. 297, 1867 (*Amphithœ*); Smith, Invert. Vineyard Sd., Report U. S. Com. Fish and Fisheries, i, p. 563 (269), pl. 4, fig. 16, 1874.

Atlantic coast (Packard). I have seen no specimens from Labrador, but the species is common from Halifax, Nova Scotia, and the Bay of Fundy to Long Island Sound.

ERICTHONIUS DIFFORMIS, Milne-Edwards.

Ericthonius difformis Milne-Edwards; Smith, Trans. Conn. Acad. iv, p. 278, 1880.

Cerapus rubricornis Stimpson, Invert. Grand Menan, p. 46, pl. 3, fig. 33, 1853; Packard, Mem. Bost. Soc. Nat. Hist., i, p. 297, 1867 (*rubifermis*).

Gulf coast (Packard).

UNCIOLA IRRORATA, Say.

Unciola irrorata Say, Jour. Acad. Nat. Sci., Philadelphia, i, p, 389, 1818; Packard, Canadian Nat. and Geol., viii, p. 419 (19), 1863; Smith Trans. Conn. Acad., iv, p. 280, 1880.

Glauconome leucopis Kroyer, Naturh. Tidsskrift, II, i, p. 491, pl. 7, fig. 2, 1845.

Gulf Coast (Packard); Atlantic coast! (Packard coll.). Packard does not mention this species in his final paper, although he had previously mentioned it in his "List of the animals dredged near Caribou Island," as quoted above. He undoubtedly collected it on his last expedition, however, for two specimens were sent to the Museum of Yale College with

Pontogenia inermis from Henley Harbor.

DULICHIA PORRECTA, Bate.

Dulichia porrecta, fide Boeck, Packard, Mem. Bost. Soc. Nat. Hist., i, p. 297, 1867.

Packard says only, "This is a rarely found species."

CAPRELLA SEPTENTRIONALIS, Kroyer.

Packard, Mem. Bost. Soc. Nat. Hist., i, p. 297, 1867.

Atlantic coast! (Stearns exped.).

ISOPODA.

PHRYXUS ABDOMINALIS, Lilljeborg (Kroyer).

Gulf coast! (Stearns exped.).

DAJUS MISIDIS, Kroyer.

Bopyrus mysidum Packard, Mem. Bost. Soc. Nat. Hist., i, p. 295, pl. 8, fig. 5, 1867.

Packard does not state from what part of the coast his specimens came, nor upon what they were parasitic, but they were undoubtedly from *Mysis oculata*, which he says is "abundant along the whole coast." I have seen no specimens.

JÆRA ALBIFRONS, Leach.

Jæra copiosa Stimpson, Invert. Grand Menan, p. 40, pl. 3, fig. 29, 1863; Packard, Canadian Nat. and Geol., viii, p. 419 (19), 1853. (Caribou Island).

Jæra nivalis Packard, Mem. Bost. Soc. Nat. Hist., i, p. 296, 1867 (Sandwich Bay).

"*Asellus Grœnlandicus* Kroyer," Packard, Mem. Bost. Soc. Nat. Hist. i, p. 296, 1867 (Square Island! and Hopedale!).

Gulf coast (Packard); Atlantic coast! (Packard and Stearns exped.).

Of "*Asellus Grœnlandicus*," Packard says: "Specimens agreeing in length with those noticed by Fabricius were common at Square Island and Hopedale, in soil under stones, &c., in company with Limax"; but the specimens sent under this name and from these localities to the Museum of Yale College are all *Jæra copiosa*, which, on the New England coast, is often found at some little distance from high-water mark, associated with some species of *Oniscidæ*, &c., and it is probable Packard's specimens were found in a similar locality. Other specimens sent to the Museum of Yale College by Packard are labelled "*Jæra* sp., Indian Tickle" (Atlantic coast).

SYNIDOTEA BICUSPIDA, Harger.

Idotea bicuspida Owen, Crustacea of the Blossom, p. 92, pl. 27, fig. 6, 1839. *Idotea marmorata* Packard, Mem. Bost. Soc. Nat. Hist., i, p. 269, pl. 8, fig. 6, 1867.

Synidotea bicuspida Harger, Proc. U. S. National Mus., ii, 1879, p. 160, 1879.

Atlantic coast (Packard).

ÆGA PSORA, Kroyer.

Whiteaves mentions the occurrence of this species on the north shore of the Gulf of Saint Lawrence, and it is probably the species referred to by Packard as *Æga* sp., "taken from the underside of a cod in the Straits of Belle Isle" (Mem. Bost. Soc. Nat. Hist., i, p. 296).

GNATHIA CERINA, Harger.

Praniza cerina Packard, Mem. Bost. Soc. Nat. Hist., i, p. 296, 1867.

"Chateau Bay, Long Island" (Packard).

TANAIS FILUM, Stimpson.

Gulf coast (Packard, Mem. Bost. Soc. Nat. Hist., i, p. 296, 1867).

OSTRACODA.

CYPRIDINA EXCISA, Stimpson.

Packard, Mem. Bost. Soc. Nat. Hist., i, p. 295, 1867.

Inserted without remark by Packard. I have seen no specimens.

COPEPODA.

LERNÆA BRANCHIALIS, Linn.

Packard, Mem. Bost. Soc. Nat. Hist., i, p. 295, 1867 (*Leonæa*).

Variety *sigmoidea* (Stearns exped.), without special locality. Packard gives no special locality, and says his specimens were attached to the *skin* of the codfish, which makes it almost certain that he observed some entirely different parasite.

CIRRIPEDIA.

CORONULA DIADEMA, De Blainville (Linn.)

Packard, Canadian Nat. and Geol., viii, p. 418 (18), 1863; Mem Bost. Soc. Nat. Hist., i, p. 295, 1867.

Gulf coast (Packard).

BALANUS CRENATUS, Bruguiere.

Packard, Mem. Bost. Soc. Nat. Hist., i, p. 295, 1867.

Gulf coast! (Stearns exped.); whole coast (Packard).

BALANUS BALANOIDES, Stimpson (Linn).
Packard, Mem. Bost. Soc Nat. Hist., i, p. 295, 1867.
Inserted without remark, by Packard.

BALANUS PORCATUS, Costa.
Packard. Canadian Nat. and Geol., viii, p. 418 (18), 1863; Mem. Bost. Soc. Nat. Hist., i, p. 295, 1867.
Whole coast (Packard).

RHIZOCEPHALA.

PELTOGASTER PAGURI, Rathke.
Packard. Mem Bost. Soc. Nat. Hist., i, p. 295, 1867.
Whole coast! (Stearns exped.). Packard recorded the species from Maine, not Labrador.

NEW HAVEN, CONN., *May* 1, 1883.

Catalogue of Mollusca and Echinodermata dredged on the Coast of Labrador by the Expedition under the Direction of Mr. W. A. Stearns, in 1882.

BY KATHARINE J. BUSH.

The collection upon which the following catalogue is based was obtained by the expedition of 1882, under the direction of Mr. W. A. Stearns. Part of the specimens were sent to the Peabody Museum of Yale College by Messrs. B. S. Barrows and J. A. Allen, and the rest to the National Museum by Mr. Stearns.

The dredging was done mostly by Mr. Stearns, Mr. B. S. Barrows, and Mr. Edwin R. Flint; but Messrs. J. A. Allen and Charles L. Flint, jr., assisted in this work.

The dredgings were made during the month of August, in shallow water, at different points along the coast included between Forteau Bay and Dead Island. The principal localities are L'anse au Loup, north latitude 51° 33′, west longitude 56°

48′; Henley Harbor, about north latitude 52° 05′, west longitude 55° 51′; Dead Island, near Square Island, north latitude 52° 48′, west longitude 55° 48′.

The nomenclature adopted is mostly the same as that of the Preliminary Check-list of the Marine Invertebrata of the Atlantic Coast, and the Catalogue of Marine Mollusca by Prof. A. E. Verrill.* The names used in Binney's edition of Gould's Invertebrata of Massachusetts are added in parenthesis when different from those adopted.

For such species as are not included in Gould's report, references have been given to at least one work in which the species is described or figured.

A list of the species found by Prof. A. S. Packard, jr.,† during the summer of 1864, but not obtained by the Stearns expedition, has been appended to the catalogues, both of Mollusca and Echinodermata, to make the faunal lists more complete.

Catalogue of Mollusca obtained by the Stearns Expedition.

CEPHALOPODA.

OMMASTREPHES ILLECEBROSUS, (Les.).

Several adult specimens were taken at L'anse au Loup, in 15 fathoms, and Fox Harbor, near the shore.

GASTROPODA.

BELA SCALARIS, (Moll.) H. & A. Adams.

Bela scalaris Verrill, Cat. Mar. Mollusca, in Trans. Conn. Acad., vol. v, part ii, p. 471, pl. LVII, figs. 12, 12*a*.

Occurred at Forteau Bay, 20 fathoms; L'anse au Loup, 8 to 15 fathoms; Henley Harbor, 3 to 15 fathoms.

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*Preliminary Check-list of the Marine Invertebrata of the Atlantic Coast, New Haven, Conn., 1879. Catalogue of Marine Mollusca, in Trans. Conn. Acad., vol. v, part 2, April, 1882.

†Recent Invertebrate Fauna of Labrador, 1865

BELA ROSEA, Sars.

Bela Harpularia, G. O. Sars, Moll. Reg. Arct. Norvegiæ, p. 231, pl. 16, fig. 17, pl. ix, figs. 3 *a-c* (dentition), 1878 (*non* Couthouy).

Bela Harpularia, var. *rosea* G. O. Sars, Moll. Reg. Arct. Norvegiæ, p. 234, pl. 23, fig. 10.

Bela rosea Verrill, Cat. Mar. Mollusca, p. 485.

Forteau Bay, 20 fathoms; L'anse au Loup, 10 fathoms; Henley Harbor, 10 to 15 fathoms; Temple Bay, 10 fathoms; Dead Island, near Square Island, 2 to 4 fathoms.

BELA SARSII, Verrill.

Bela cancellata G. O. Sars, Moll. Reg. Arct. Norvegiæ, p. 224, pl. 23, fig. 3 (*non* Mighels).

Bela Sarsii Verrill, Cat. Mar. Mollusca, p. 484.

Several specimens dredged at Forteau Bay, 20 fathoms, L'anse au Loup, 10 to 15 fathoms, have been directly compared with shells from Tromso, sent by Dr. Friele from the museum at Bergen. This is a rare species on the American coast, having rarely been found before except at Murray Bay, Canada. (Dawson, coll.)

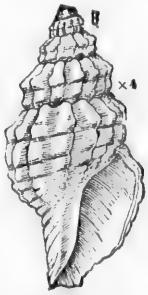

Fig. 8. — *Bela Sarsii*, x 4, from Labrador.

BELA EXARATA, (Moller) H. & A. Adams.

Bela exarata Verrill, Cat. Mar. Mollusca, p. 467.

Three were dredged at L'anse au Loup, with sand and kelp.

Fig. 7. — *Bela pleurotomaria* x 3. From off Cape Cod.

BELA MITRULA, Loven.

Bela mitrula G. O. Sars, Moll. Reg. Arcticæ Norvegiæ, p. 233, pl. 23, fig. 9.

Bela concinnula, var. *acuta* Verrill, Cat. Mar. Mollusca, p. 470.

Several specimens, agreeing closely with those of Europe, sent by Dr. Friele, were found at Forteau Bay, 20 fathoms; L'anse au Loup, 10 to 15 fathoms.

BELA PLEUROTOMARIA, (Couth.) Adams.

Bela pleurotomaria, Verrill, Cat. Mar. Mollusca, p. 478.

L'anse au Loup, 10 to 15 fathoms; Henley Harbor, 10 to 15 fathoms; Temple Bay, 10 fathoms; Dead Island, near Square Island, 1 to 4 fathoms.

BELA DECUSSATA, (Couth.) H. & A. Adams.

Bela decussata Verrill, Cat. Mar. Mollusca, p. 479, pl. 43, fig. 13.

Fig. 10.—*Bela incisula*, x 2. From Eastport, Me.

Forteau Bay, 20 fathoms; L'anse au Loup, 10 fathoms. One unusually large dead specimen at Henley Harbor, 10 to 15 fathoms.

BELA INCISULA, V.

Bela incisula Verrill, Cat. Mar. Mollusca, p. 461, pl. 43, fig. 12, pl. 57, fig. 14.

Most common at L'anse au Loup, 10 to 15 fm.; Forteau Bay, 20 ; Henley Harbor, 1 to 17 fm.; Dead Island, 2 to 4 fm.

BELA BICARINATA, (Couth.) V.

Bela bicarinata Verrill, Cat. Mar. Mollusca, p. 482, pl. 57, figs. 16, 16*a*.

Not uncommon at Forteau Bay, 20 fathoms; L'anse au Loup, 10 to 15 fathoms. One dead specimen at Henley Harbor, 10 to 15 fathoms.

BELA BICARINATA var. VIOLACEA, (Migh. & Adams).

Bela bicarinata var. *violacea* Verrill, Cat. Mar. Mollusca, p. 483.

Common at all localities in 1 to 20 fathoms.

ADMETE COUTHOUYI, (Jay) Ad. (=*A. viridula* Gld.).

L'anse au Loup, 10 to 15 fathoms; Henley Harbor, 3 to 15 fathoms; Temple Bay, 10 fathoms; Dead Island, near Square Island, 1 to 4 fathoms.

SIPHO LIVIDUS, (Morch).

Sipho lividus Verrill, Cat. Mar. Mollusca, p. 507.

Two good, though dead, specimens were found at Henley Harbor, in 8 fathoms, and Dead Island, near Square Island, in 1 to 4 fathoms. Hitherto recorded from the Grand Bank of Newfoundland; Orphan Bank, in the Gulf of Saint Lawrence; and off Metis, mouth of the Saint Lawrence River.

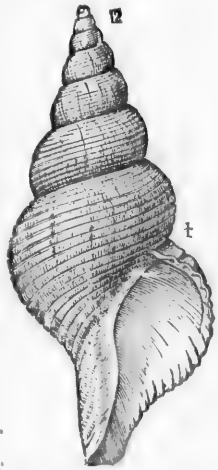

Fig. 12. *Sipho lividus*, natural size. From a specimen taken off Metis, Canada, by Principal J. W. Dawson.

TRITONOFUSUS CRETACEUS (Reeve).

Buccinum cretaceum Packard, Can. Natr., vol. viii, p. 417, pl. 2, fig. 6, 1863; Mem. Boston Soc. Nat. Hist., i, p. 288, pl. 7, fig. 7, 1867

Tritonofusus Kroyeri Verrill, Cat. Mar. Mollusca, p. 510, (*non* Moller sp.).

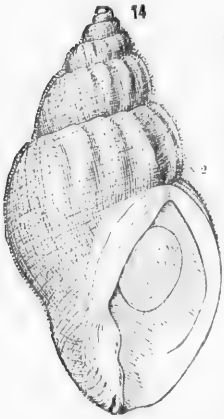

Fig. 14. *Buccinum ciliatum*, x 2. Riviere du Loup, Canada (J. W. Dawson).

A few examples of this interesting species, obtained at Henley Harbor and Temple Bay, in 3 to 10 fathoms, agree exactly with the Canadian form, from off Metis.

BUCCINUM UNDATUM, Linne.

This species occurs abundantly along the coast in 1 to 15 fathoms, but is a much larger and smoother variety than the more typical form found at Eastport, Me. There is also a marked difference in color; most specimens being, in alcohol, of a dark reddish brown.

BUCCINUM DONOVANI, Gray.

A large and a small specimen of this characteristic species were found at Henley Harbor, at low water at 15 fathoms, comparing well with shells from off Metis.

BUCCINUM TOTTENII, Stimp.

Buccinum Tottenii Stimpson, Review Northern Buccinums, Can. Nat. 1865, p. 23 (sep. cop.).

Three shells corresponding to the Canadian form from off Metis, occurred at Henley Harbor and Temple Bay in 8 to 15 fathoms.

BUCCINUM CILIATUM, (Fabr.) Moller.

Buccinum ciliatum Stimpson, Review Northern Buccinums, Can. Natur., 1865, p. 11 (sep. cop.).

This species was found in 3 to 8 fathoms at Henley Harbor. Hitherto recorded from the Grand Bank, Gulf of Saint Lawrence, Greenland, and other Arctic localities.

Fig. 13.—*Buccinum Tottenii*, natural size. Off Metis, Canada (J. W. Dawson).

TROPHON CLATHRATUS, (Linne) Moll

L'anse au Loup, 10 to 15 fathoms; Henley Harbor, 3 to 15 fathoms; Temple Bay, 10 fathoms.

ASTYRIS ROSACEA, (Gould) H. & A. Adams. (= *Columbella rosacea* Gld.).

A few good specimens were taken at L'anse au Loup, in 8 fathoms; Henley Harbor, in 3 to 8 fathoms. They differ from more typical shells of this species from New England, in having the transverse ribs more distinct on about four of the upper whorls below the nucleus. They are absent from the two last whorls.

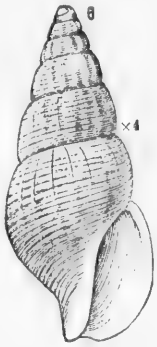

Fig. 6. — *Astyris rosacea*, x 4, from Labrador.

NATICA CLAUSA, Brod. & Sowerby.

Henley Harbor, 8 fathoms; Dead Island, near Square Island, 1 to 4 fathoms. One unusually large specimen measured 30mm. in length, 28mm. in breadth.

LUNATIA GRŒNLANDICA, (Moll) H. & A. Ad.

Henley Harbor, in 3 to 8 fathoms.

VELUTINA LÆVIGATA, (L.) Gould (= *V. haliotoidea* Gld.).

A very few small specimens were found at Henley Harbor, 3 to 8 fathoms; Dead Island, near Square Island, 1 to 4 fathoms, mud.

LITTORINELLA MINUTA, (Totten) Stimp. (= *Rissoa minuta* Gld.)

Fox Harbor, Saint Lewis Sound, 1 to 4 fathoms, sand; one dead.

Fig. 9.— *Cingula castanea*, x 8. From Gulf of St. Lawrence.

CINGULA CASTANEA, (Moll.) Verrill.

Cingula castanea G. O. Sars, Moll. Reg. Arct. Norvegiæ, p. 174, pl. 10, figs. 1 *a*, 1 *b*, 1878; Verrill, Cat. Mar. Mollusa, pl. 43, fig. 1.

Dead Island, near Square Island, 1 to 4 fathoms, hard bottom.

LITTORINA LITTOREA, (Linne) Menke

Very rare at so northern a latitude.

LITTORINA RUDIS, (Maton) Gould.

Much eroded specimens occurred at all the localities.

LACUNA VINCTA, (Mont.) Turton.

Common at Forteau Bay, 20 fathoms; L'anse au Loup, 8 to 15 fathoms; Fox Harbor, Saint Lewis Sound, 1 to 4 fathoms; Dead Island, near Square Island, 1 to 4 fathoms. The larger specimens measure about 13mm. in length and 8mm. in breadth.

TURRITELLA EROSA, Couth.

Common at all the localities.

TURRITELLA RETICULATA, Migh.

L'anse au Loup, 10 fathoms; Henley Harbor, 3 to 15 fathoms; Temple Bay, 10 fathoms; Dead Island, near Square Island, 2 to 4 fathoms.

TURRITELLOPSIS ACICULA, Sars.

Turritella acicula Stimp., Proc. Bost. Soc. Nat. Hist., vol. iv, p. 15, 1851; Shells of New England, p. 35, pl. 1, fig. 5.

Turritellopsis acicula G. O. Sars. Moll. Reg. Arct. Norvegiæ, pl. 10, figs. 14 *a*, *b*.

A few good, though dead, specimens were found at Dead Island, near Square Island, 1 to 4 fathoms, mud.

TRICHOTROPIS BOREALIS, Brod. & Sow.

L'anse au Loup, 8 to 10 fathoms; Henley Harbor, 3 to 15 fathoms; Temple Bay, 5 to 10 fathoms; Dead Island, near Square Island, 2 to 4 fathoms.

APORRHAIS OCCIDENTALIS, Beck.

Forteau Bay, 20 fathoms; L'anse au Loup, 10 to 20 fathoms; Henley Harbor, 15 fathoms, living. Temple Bay; Fox Harbor, Saint Lewis Sound, 8 fathoms; Dead Island, near Square Island, 2 to 4 fathoms, dead.

MARGARITA HELICINA, (Fabr.) Moll.

L'anse au Loup, 10 fathoms, one dead. Very common, in 1 to 4 fathoms, at Fox Harbor, Saint Lewis Sound, and Dead Island, near Square Island.

MARGARITA CINEREA, (Couth.) Gould.

Dredged in abundance on sandy bottoms in 1 to 20 fathoms.

MARGARITA GRŒNLANDICA, (Gm.) Moll. (=*M. undulata* Gld.).

Common at all the localities. At Dead Island, near Square Island, 1 to 4 fathoms, the smooth variety was found.

MARGARITA ARGENTATA, Gould

One dead specimen was taken off dead Island, near Square Island, in 2 to 4 fathoms, nullipore bottom.

MACHÆROPLAX VARICOSA, (Migh.) Friele (= *Margarita varicosa* Gould).

Forteau Bay, 20 fathoms; L'anse au Loup, 10 to 15 fathoms, sand, in abundance; Dead Island, near Square Island, 1 to 4 fathoms.

MACHÆROPLAX OBSCURA, (Couth) Friele (= *Margarita obscura* Gld.).

One specimen, living, at L'anse au Loup, 15 fathoms, sand.

PUNCTURELLA NOACHINA, (L.) Lowe (= *Cemoria Noachina* Gld.).

Henley Harbor, 3 to 8 fathoms; Dead Island, near Square Island, 2 to 4 fathoms.

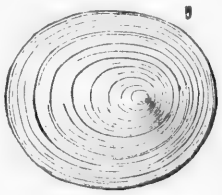

Fig. 5.—*Acmæa rubella*, x 4, from Labrador. 5*a*.—The same specimen. Profile view.

ACMÆA TESTUDINALIS, (Mull.) Han. (= *Tectura testudinalis* Gld.).

L'anse au Loup, 8 to 15 fathoms; Henley Harbor, 3 to 15 fathoms; Temple Bay, 5 to 10 fathoms; Fox Harbor, Saint Lewis Sound, 1 to 5 fathoms; Dead Island, near Square Island, 1 to 4 fathoms.

ACMÆA RUBELLA, (Fabr.) Dall.

Tectura rubella G. O. Sars, Moll. Reg. Arc. Norvegiæ, p. 121, pl. 8, figs. 5 *a*, *b*.

One living specimen was taken at Temple Bay, rocky bottom.

LEPETA CÆCA, (Mull.) Gray.

Henley Harbor, 3 to 15 fathoms; Temple Bay, 5 to 10 fathoms.

TONICELLA MARMOREA, (Fabr.) Carp. (= *Chiton marmoreus* Gld.).

Occurred in abundance at L'anse au Loup, low-water mark to 8 fathoms; Henley Harbor, 3 to 15 fathoms; Temple Bay, 10 fathoms; Dead Island, near Square Island, 1 to 4 fathoms.

TRACHYDERMON RUBER, (Linne) Carp. (= *Chiton ruber* Gld.)

Found with the preceding, but not in such abundance.

TRACHYDERMON ALBUS, (Linne) Carp. (=*Chiton albus* Gld.).

A few were found at L'anse au Loup, 8 to 10 fathoms, rocks, sand, and mud.

MENESTHO ALBULA, (Fabr.) Moll. (*non* Gld.).

One young, living, at L'anse au Loup, 10 fathoms, mud and kelp. This specimen does not agree precisely with Greenland examples.

CYLICHNA ALBA, (Brown) Loven.

Dead Island, near Square Island, 2 to 4 fathoms, nullipore bottom.

CORYPHELLA DIVERSA, (Couth.) Verrill.

Two specimens. L'anse au Loup.

Fig. 11—*Menestho albula*, x 8. From Labrador.

LAMELLIBRANCHIATA.

SAXICAVA ARCTICA, (Linne) Desh.

Common at most of the localities.

CYRTODARIA SILIQUA, (Speng.) Woodw. (= *Glycymeris siliqua* Gld.).

One very young specimen. L'anse au Loup, 10 fathoms, mud and kelp.

MYA ARENARIA, Linne.

Very common in 1 to 5 fathoms.

MYA TRUNCATA, Linne.

L'anse au Loup, 10 fathoms, with sand and kelp, one young specimen.

LYONSIA ARENOSA, (Moller) Morch.

One valve was found in Temple Bay, in 10 fathoms, mud.

PERIPLOMA PAPYRACEA, (Say) Conrad; Verrill (= *Anatina papyracea* Gld.)

One valve of a very young specimen was dredged in Henley Harbor, 10 to 15 fathoms.

MACOMA FRAGILIS, (Fabr.) H. & A. Ad. (= *M. fusca* Gld.).

In abundance in Fox Harbor, Saint Lewis Sound, 1 to 10 fathoms, mud.

MACOMA SABULOSA, (Speng.) Morch (=*M. proxima* Gld.).

L'anse au Loup, Henley Harbor, Fox Harbor, Dead Island, near Square Island, in 1 to 15 fathoms.

LIOCYMA FLUCTUOSA, Dall (= *Tapes fluctuosa* Gld.).

L'anse au Loup and Henley Harbor, 10 to 15 fathoms.

CARDIUM CILIATUM, Fabr. (= *C. Islandicum* Gld.).

Cardium ciliatum Fabr., Fauna Grœnl., p. 410. (1780).

Cardium Islandicum Gmelin, Syst. Nat., p. 3252. (1792).

Common in Henley Harbor, 10 to 15 fathoms; Temple Bay, 10 fathoms; Fox Harbor, Saint Lewis Sound, shallow water; Dead Island, near Square Island, 2 to 4 fathoms.

SERRIPES GRŒNLANDICUS, (Gmel.) Beck.

Found in all the localities, in 1 to 15 fathoms.

CRYPTODON GOULDII, (Phil.) Stimp.

L'anse au Loup, 10 fathoms; Henley Harbor, 3 to 8 fathoms; Dead Island, near Square Island, 1 to 4 fathoms.

AXINOPSIS ORBICULATA, Sars.

Axinopsis orbiculata G. O. Sars, Moll. Reg. Arct. Norvegiæ, p. 63, pl. 19, figs. 11 *a–d*.

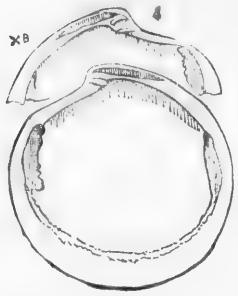

Fig. 4.—*Axinopsis orbiculata*, x 8, from Labrador.

One specimen occurred in Henley Harbor, 10 to 15 fathoms.

VENERICARDIA BOREALIS, (Con.) Carp. (=*Cavaita borealis* Gld.).

Henley Harbor, 3 to 10 fathoms; Temple Bay, 10 fathoms; Dead Island, near Square Island, 2 to 4 fathoms.

ASTARTE ELLIPTICA, (Brown) McGill.

Common in Henley Harbor and Temple Bay, in 5 to 15 fathoms.

ASTARTE BANKSII, (Leach) Gray.

In abundance at Henley Harbor, 3 to 15 fathoms; Temple Bay, 10 fathoms; Fox Harbor, Saint Lewis Sound, Shallow water.

ASTARTE ARCTICA, (Gray) Forbes & Han.

Astarte lactea Brod. & Sby., Zool. Jour., IV, p. 365, 1828–'29.

Henley Harbor, 10 to 15 fathoms; Temple Bay, rocky bottom; Fox Harbor, Saint Lewis Sound, 3 to 10 fathoms; Dead Island, near Square Island, 2 to 4 fathoms.

NUCULA TENUIS, var. INFLATA (Hancock).

Henley Harbor, in 3 to 8 fathoms.

YOLDIA MYALIS, (Couth.) Stimp.

A very badly worn valve was dredged at L'anse au Loup, in 15 fathoms, sand.

LEDA JACKSONI, Gould.

Henley Harbor and Temple Bay, in 10 to 15 fathoms.

LEDA MINUTA, (Mull.) Moller.

Found with the preceding.

MYTILUS EDULIS, Linne.

Henley Harbor, Temple Bay, Fox Harbor, Dead Island, in 1 to 10 fathoms.

MODIOLARIA NIGRA, (Gray) Loven.

Several young specimens were found at L'anse au Loup, 10 fathoms.

MODIOLARIA DISCORS, (Linne) Loven.

Dead Island, near Square Island, in 1 to 4 fathoms.

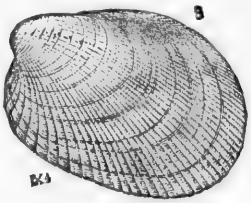

Fig. 3.—*Crenella faba*, x 4. From Labrador.

MODIOLARIA CORRUGATA, (Stimpson) Morch.

Henley Harbor, in 3 to 7 fathoms.

CRENELLA FABA, (Mull.) (=*C. pectinula* Gld. ?).

Mytilus faba Fabricius, Fauna Grœnlandica, p. 419.

The young of this species were found at L'anse au Loup, 10 to 15 fathoms, sand, mud, kelp; Fox Harbor, Saint Lewis Sound, 1 to 4 fathoms, sand, abundant; Dead Island, near Square Island, shallow water.

CRENELLA GLANDULA, (Totten) H. & A. Ad.

L'anse au Loup, in 8 to 10 fathoms.

CRENELLA DECUSSATA, (Mont.) Macg.

Crenella decussata Verrill, Cat. Mar. Mollusca, p. 578, pl. 44, fig. 7.

Several specimens were found at L'anse au Loup, 10 fathoms; Fox Harbor, Saint Lewis Sound, 3 fathoms.

[THE CUT OF THIS SPECIES WAS MISPLACED AND NOT FOUND AT TIME OF GOING TO PRESS.]

PECTEN ISLANDICUS, Muller.

Dead Island, near Square Island, in 1 to 4 fathoms.

ANOMIA ACULEATA, Mull.

L'anse au Loup, 8 to 15 fathoms; Henley Harbor, 10 to 15 fathoms.

BRACHIOPODA.

RHYNCHONELLA PSITTACEA, (Gm.) Owen.

Henley Harbor, 3 to 8 fathoms; Temple Bay, 10 fathoms; Dead Island, near Square Island, 1 to 4 fathoms.

List of Labrador shells recorded by Dr. A. S. Packard, Jr., but not obtained by the Stearns Expedition.

GASTROPODA.

Bela cancellata (*Migh.*) *Stimp.*
Fusus syrtensis, nov. sp. (*Not seen.*)
Fusus tornatus *Gld.* (Neptunea despecta (*L.*) *Ad.*).
Buccinum tenue *Gray.*
? Natica heros *Sowb.* (Lunatia heros (*Say*) *H. &. A. Ad.*).
Littorina palliata *Gld.*

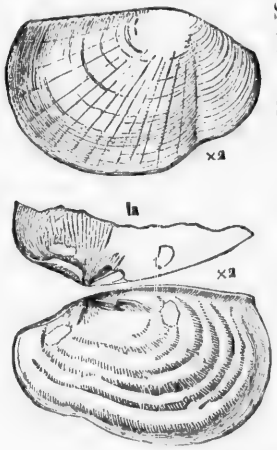

Fig. 1.—*Kennerlia glacialis*, x 2. Specimen from Labrador, collected by Prof. A. S. Packard, jr., 1864.
Fig. 1 *a*. The same. Interior view of another specimen.

Scalaria Grœnlandica *Perry.*
Margarita campanulata *Morse, nov. sp.* (M. helicina, *var.*).
Scissurella crispata *Flem.*
Adeorbis costulata *Stimp.* (Molleria costulata (*Moll.*) *Jeff., Fr.*).
? Lamellaria perspicua *Loven.* (*Not seen.*)
Bulla pertenuis *Migh.* (Diaphana pertenuis (*Migh.*) *Verrill*).
Bulla occulta *Migh.* (Cylichna occulta (*Migh.*) H. & A. Ad.).
Dendronotus arborescens *Ald. & Han.*

PTEROPODA.

Clione limacina *Phipps* (C. papilionaeca *Pallas*).
Limacina helicina *Phipps.*

LAMELLIBRANCHIATA.

Solen ensis *Linne* (Ensatella Americana (*Gould*) *Verrill*).

Kennerlia glacialis (*Leach*) *Carp.*[*1]
Thracia Conradi *Couth.*
Thracia myopsis *Beck.*
Mactra solidissima *Chem.* (Spisula solidissima (Dillw.) Gray).
Mactra polynema *Stimp.* (Spisula ovalis Gld.).
Mesodesma Jauresii *Joann.* (Ceronia deaurata (Turt.) Stimp.).
Gemma Totteni *Stimp.* (Tottenia gemma (Totten) Perkins).
? Cardium pinnulatum *Conr.* [**]
Cardium Hayesii *Stimp.* (C. ciliatum, var.).
Yoldia sapotilla *Stimp.*
Mytilus modiolus *Linne* (Modiola modiolus (Linn.) Turton).
Pecten tenuicostatus *Mighels.*
Limatula sulculus *Leach.* (Not seen.)

Catalogue of Echinodermata obtained by the Stearns Expedition.

LOPHOTHURIA FABRICII, Verrill.

Psolus Fabricii Duncan & Sladen, Echin. Arctic Sea, p. 10, pl. 1, figs. 9–13, 1881.

Young were found at Henley Harbor and Temple Bay in 8 to 10 fathoms.

PENTACTA CALCIGERA, Stimp.

Cucumaria calcigera Duncan & Sladen, Echin. Arctic Sea, p. 5, pl. 1, figs. 3–8, 1881.

Fox Harbor, St. Lewis Sound, in 1 to 3 fathoms. A number of good specimens were without a locality label.

CHIRODOTA LÆVE, Grube.

Chirodota lævis Duncan & Sladen, Echin. Arctic Sea, p. 12, pl. 1, figs. 14–19, 1881.

Temple Bay in 5 fathoms; Fox Harbor in 1 fathom; Dead Island, near Square Island, in 2 to 4 fathoms.

[*1] Three specimens, sent to the Peabody Museum of Yale College, were labeled *Pandora trilineata* Say.

[**] One specimen labeled C. *pinnulatum* Conr., sent to the Peabody Museum of Yale College = *Cardium ciliatum* Fabr. (young).

ECHINARACHNIUS PARMA, Gray.

Common at L'anse au Loup on sandy, muddy, and kelpy bottoms, in 10 to 15 fathoms.

STRONGYLOCENTROTUS DROEBACHIENSIS, A. Ag.

Two large specimens were found at L'anse au Loup in 15 fathoms.

ASTERIAS VULGARIS, Stimp.

Large specimens were found in abundance at low-water mark at Bonne Esperance, Esquimaux Bay.

ASTERIAS POLARIS, (M. & Tr.) Verrill.

Asteracanthion polare Duncan & Sladen, Echin. Arctic Sea, p. 23, pl. 2, figs. 4–8, 1881.

Found in abundance with the preceding. At L'anse au Loup a young specimen was taken in 8 fathoms.

LEPTASTERIAS LITTORALIS, (Stimp.) Verrill.

Several specimens were found at Dead Island, near Square Island, in 1 to 5 fathoms.

CRIBRELLA SANGUINOLENTA, (Mull.) Lutk.

Cribrella sanguinolenta A. Agassiz, North Amer. Star fishes, pl. 18, 1877.

Cribrella oculata Duncan & Sladen, Echin. Arctic Sea, p. 32, pl. 2, figs. 18–21, 1881.

Henley Harbor in 10 to 15 fathoms; Dead Island, near Square Island, in 1 to 5 fathoms.

CROSSASTER PAPPOSUS, Mull. & Tro.

Crossaster papposus A. Agassiz, North Amer. Star fishes, pl. 12, 1877; Duncan & Sladen, Echin. Arctic Sea, p. 36, pl. 3, figs. 1–4, 1881.

A few specimens were taken in 10 fathoms at Henley Harbor and Temple Bay.

OPHIOPHOLIS ACULEATA, Gray.

Ophiopholis bellis Lyman, Cat. Mus. Comp. Zoology, No. 1, p. 96, pl. 1, figs. 4–6, 1865.

L'anse au Loup in 8 to 15 fathoms; Henley Harbor at low-water mark, and 10 fathoms; Temple Bay in 10 fathoms; Dead Island, near Square Island, in 1 to 5 fathoms. Common.

AMPHIURA SUNDEVALLI, Mull. & Tur.

Amphiura Holbolli Duncan & Sladen, Echin. Arctic Sea, p. 67, pl. 4, figs. 15–17, 1881.

One mutilated specimen was found in 10 to 15 fathoms at Henley Harbor.

OPHIOGLYPHA SARSII, (Lutk.) Lym.

Ophioglypha Sarsii Duncan & Sladen, Echin. Arctic Sea, p. 60, pl. 4, figs. 3, 4, 1881.

Two were taken in 10 fathoms at Henley Harbor.

OPHIOGLYPHA ROBUSTA, (Ayres) Lym.

Ophioglypha robusta Duncan & Sladen, Echin. Arctic Sea, p. 62, pl. 4, figs. 5–7, 1881.

L'anse au Loup; Henley Harbor, 10 fathoms; Dead Island, near Square Island, 2 to 4 fathoms.

OPHIOGLYPHA NODOSA, (Luth.) Lym.

Ophioglypha nodosa Lutken, Addit. ad Hist. Ophiur., pl. 2, figs. 9a, b, 1858.

The most abundant species. L'anse au Loup, Henley Harbor, and Temple Bay, in 10 to 15 fathoms.

List of Labrador Echinoderms recorded by Dr. A. S. Packard, Jr., but not obtained by the Stearns Expedition.

Pentacta frondosa *Jæger.*
Eupyrgus scaber *Lutken.*
Myriotrochus Rinkii *Steenst.*
Asterias grœnlandicus *Steenst.* (Leptasterias grœnlandicus V.).
Solaster endeca (*Linn.*) *Forbes.*
Ophiacantha spinulosa *Mull. & Tr.* (O. bidentata *Ljung*).
Astrophyton eucnemis *Mull. & Tr.*

NEW HAVEN, CONN., *May* 1, 1883.